

E.N.I.G.M.A.

EUROPEAN NUMBERS INFORMATION GATHERING &
MONITORING ASSOCIATION

Published JAN 2000 ISSUE 18

IN THIS ISSUE OF ENIGMA
THE FUTURE OF ENIGMA?
HOLIDAY LISTENING TIPS
FACT OR FICTION - WE REPORT



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◆ INTRODUCTION

ENIGMA is the journal of the European Numbers Information Gathering and Monitoring Association.

ENIGMA is a non-profit making association of listeners who monitor and gather information on "Number Stations" and other related radio transmissions. ENIGMA aims to bring together listeners and enthusiasts and provide quality information on subjects not normally available from main-stream publications. In addition to our dedicated private readership ENIGMA is also purchased by Government agencies and overseas Embassies and Security Services.

We aim to bring you the most accurate information available. The newsletter covers the preceding 3/4 months monitoring so is always "up to date" when published, but due to the nature of the subject, schedules, operating patterns and habits are subject to change without notice!

◆ CONTRIBUTIONS

We appreciate all contributions to the newsletter, especially from Europe, the Middle East, Far East & CIS, but all are welcome (including anonymous information). We regret that owing to the amount of information received we are not always able to provide a personal reply but, rest assured, we read, collate and index all information for present and future use. What may seem insignificant today may prove invaluable at a later date. Questions are mainly answered via our "Letters to ENIGMA" pages in the Newsletter. ENIGMA is also a discussion forum and we welcome comments about the newsletter, and "Numbers" monitoring in general.

◆ HOW YOU CAN HELP ENIGMA

In addition to your logs and letters we also collect 'cuttings' and information about espionage for use in features. We need more Morse monitors and also readers who would be interested in concentrating on particular stations, either voice or Morse in order to learn more about their 'habits'. We are particularly keen to learn about transmitter sites in any country. If you are going on holiday please let us know what you heard, and if you are interested in writing a feature please contact our office.

◆ SUBSCRIPTIONS

Four copies of ENIGMA are available for; GBP 7.00 UK Postage Paid
 GBP 10.00 Rest of World, Air-Mail

Payments may be made by Sterling cash, or Eurocheques (in Sterling please), UK cheques or Postal Orders. Payable to "ENIGMA". If paying in foreign currency please pay equivalent of £12.50 sterling. We are unable to process Credit/Debit card payments.

◆ BACK ISSUES & BOOKLET

Back copies of issues 11 to 17 inclusive are still available, while stocks last, at the following prices, inclusive of postage. Please allow up to 28 days for delivery.

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◆ COVER ISSUE 18 - ECHELON - Who is reading your E-Mail?

EDITORIAL

by H F Adcock

It is with regret that I have to inform you that Chris M., founder of ENIGMA, has decided to retire partly due to other commitments. However, after discussing things with him, he'll continue to deal with subscriptions and distribution, and will still take an interest in Numbers Stations. I much appreciate the work he has done over the years.

There are other factors which led to his decision which relate to ENIGMA itself, and briefly these are:-

1. Fewer contributions being received.
2. Lack of response to questions and requests for help.
3. Virtually no feedback from "Attention! 1,2,3"
4. More people moving to the Internet and away from SW in general. For some, the Internet has replaced monitoring.
5. Internet material being largely confined merely to logs from English-speaking countries (especially USA), many of them inadequate, and very little in the way of comment, observation or serious discussion. I agree with all these points, but rather than disband ENIGMA, I feel that the need for our service is all the more important - just because the general quality of information found elsewhere is so very poor and often trivialised and sensationalised (like the tabloid press, and disturbing trends on TV and radio programming). Another consideration is the encouraging results we receive from our questionnaires, which clearly show that the service we provide is needed and appreciated by our subscribers.

ENIGMA will continue, but undoubtedly in a new form, which to a certain extent will depend on you, the readers. (A further questionnaire is planned with this in mind). First of all, we need to discuss the various future options.

As far as I am concerned, ENIGMA needs to remain the 'definitive', accurate and serious forum for the study of so-called numbers stations and related matters. Nothing existing at present remotely approaches this standard. This is why a group like ENIGMA is still needed, now more than ever. Until a serious rival appears, we cannot really afford to talk of disbanding.

Although the majority of our subscribers monitor Short Wave as a hobby, and dare I say it, may read the Newsletter as a form of entertainment, there are others whose motives are quite different. It is mainly, for this minority that I am involved. Any serious historical study of the intelligence services, espionage and HF radio communications needs to include the areas we cover. Small countries (especially ex-Soviet republics) benefit from our information, as their monitoring resources are largely still insufficiently developed. Other regular readers (but never contributing!) work for certain departments of the British & American intelligence services. No doubt, they scan our pages looking for anything "sensitive", and pick up on anything their insatiable SIGINT appetite misses out on.

Therefore our information may be used in many different ways, of which mere entertainment is the least important. ShortWave listeners who have a genuine interest in the subject will naturally help us by providing information, whether logs, reminiscences, comments, obscure news cuttings etc.

However, our appeals for help are largely ignored. Incoming intelligence is becoming very sparse or inferior - apart from that sent in by a few of our regular serious contributors. Over the years ENIGMA has evolved from a very amateurish uninformed group of SWLs to something far greater, and this is due very much to our contributors and the work we have put into it. It is my view that we are clearly aiming our Newsletter at the "wrong" groups of people - as so few so-called SWLs bother to contribute. There must be many out there who have never even heard of us, yet would be of far greater value, in that they would be in a position to supply us with higher grade material. We'd particularly like to hear from more of those who had been involved in "Eastern Bloc" activities during the Cold War. Not only ex-intelligence officers, but cryptographers, SIGINT personnel and humble radio amateurs and technicians.

The Cold War is over, yet details of HF agent-running systems are still very sparse - especially in Western Europe. What covert organisations were behind the destabilisation of the Eastern Bloc? Which of these were behind the Five Dashes stations, and who were the recipients? Who was behind

the Saxophone Jazz station? What was the Tyrolean Music station really up to? What was Radio Northsea International's true purpose? What is the mystery of Swedish Rhapsody. These are just a few of the important historical questions that need answering. There must be people out there who would be prepared to give the answers.

When we come to present-day activity, there is still such a lot we don't know, not least the locations and roles of some of the major stations. Only people willing to spend time on serious research can hope to get anywhere near the answers. These are the people we really need, so all future Newsletters will primarily be written with this in mind. We'll continue to provide accurate details of recent Station News as always, but serving SWLs won't be our main purpose. We'll also be covering cryptography in greater depth. We also need to view things from a long-term, wider perspective.

The Matter of the Internet

The Internet has insidiously crept up on ENIGMA over the past few years, and several of our members have compared our Newsletter with Internet sites. Users of the Internet tend too readily to assume that all people have access to it worldwide. In reality, the Internet is very much a US phenomenon, and even today the vast majority of its users are Americans. Even in Britain most people do not have Internet access, and in Eastern Europe there are far fewer still. It would be quite wrong for ENIGMA to merely be addressing Internet users. American bias is evident in the bulk of Internet material, and is most obvious in its use of American English and dating form. This bias is also evident when we look at the logs reported by Numbers and Oddities. We receive pages and pages of printouts listing stations logged in USA, very little of which covers the much busier activity of European stations, which is our main field (and even represented by the first initial of ENIGMA!) This presents a grossly disproportionate picture of activity and traffic. This doesn't mean that some of this US material isn't useful; it is. However, 90% of logs, in general, are of absolutely no use to us, as they tell us nothing new, yet we still need to read through these enormous piles of paper just in case.

The Internet has exacerbated this trend. By its very nature, it is anarchic (yet its technical organisation is the opposite - see later); it's a system which naturally finds itself reducing to the lowest standards. It is ephemeral and largely used for entertainment (around 70% of Internet use is sex-related), and so I cannot ever consider it, on the whole, a very serious medium. It appeals to a predominantly male clientele, most of whom are attracted more to its speed & technological aspects than the quality of its content. It's also a magnet for cranks of all kinds from right-wing racists and anti-Castro fanatics to New Age conspiracy theorists and sexual predators. Naturally, Numbers Station websites have also attracted their fair share of cranky theorists. The very subject of "Spying" attracts those who find it entertaining, and who wish to be party to some "secret" unknown to the majority (this is why Spy thrillers and films are so popular). But ENIGMA's aim should not be to entertain.

One reader wondered why we couldn't produce our Newsletters more often like "Numbers & Oddities". There are several reasons: Our aims are quite different and have a long-term basis - so there would be little point. It's physically much more difficult - getting Newsletters written, edited, printed and posted. Ethical grounds - see later.

Why make logs?

There is no point in the indiscriminate endless listing of logs. It serves no purpose whatsoever, other than that of listing for listing's sake. It's comparable to the hobby of obsessive train-spotting, and merely serves the psychological needs of the "listee" who becomes a slave to his (nearly always a he) own creation, and the devotees who read them. Listing logs, without analysing them must surely be one of the dullest forms of collecting imaginable! Analysis is allimportant, and with a few notable exceptions, far too little of this occurs on the Internet. Once a station's habits have been thoroughly analysed, the need for keeping logs no longer exists. We merely need to ensure by monitoring that the station is conforming to its habits. Only when these habits change does log-keeping again become important - which may only apply to one schedule. There is little point in naming contributors of logs, which can encourage competition for the greatest quantity, rather than few logs of high quality which would be far more useful. As certain of our contributors wish to remain anonymous, it is better to omit names entirely - unless you specifically want your name mentioned. You all "know who you are" and we are very grateful for your contributions.

Often logs need to be far more detailed than given on the Internet. Sometimes a potentially

interesting log has so little detail that it becomes useless. The N & O "one-line" system of listing has a major drawback in that this is often quite insufficient space for logging stations which require the recording of more significant elements than a mere single line allows. Many transmissions fall into this category. All IDs (ANs, SNs etc) and DKs etc. should always be recorded, and sometimes entire messages. Without such details, the logs concerned are of little use, as freqs and times often change at a high rate. SN's often enable us to track such schedules, and analyse their traffic levels. Our notes on log-keeping should be followed by all who consider the subject seriously, and we have clearly explained the reasons for this previously.

The Sinister side of the Internet

As I said earlier, the Internet is dominated by US interests; these interests extend far beyond those of the users, and are mainly commercial. The origins of the Internet can be traced back to the US military-sponsored Arpanet (Defence Advanced Research Project Agency) developed in the 1970s, which linked up researchers at universities in USA and Britain. Research data and chat passed through this system was intercepted from the outset by the NSA. We all know that the NSA still intercept encrypted Internet & e-mail data on a worldwide basis. (Menwith Hill, its biggest intercept site on earth isn't far from ENIGMA HQ). Most of this is of an economic nature, and is used to ensure that US economic interests receive the greatest advantages possible - by means which have little or no regard for ethical considerations. It is no accident that official US sources speak glibly of "US 'global' domination", that the USAF speak of the US "Warfighters' Mission to Dominate Space" or that their obsession with Free Trade is motivated solely by self-interest, where as usual, the developing countries suffer. The Internet provides yet another medium for the aggressive channelling of US influence throughout the world. Ethics play no part in this obsession for world (or as they say, "global"!) dominance.

You've probably all heard of the IC (made by the US Motorola company & marked 'NSA') and used by Microsoft (US company) in their computers to restrict their encryption capability so that the NSA have easy access to data through their worldwide 'Echelon' system. But have you ever wondered what the Internet address popular suffixes (such as .com, .edu, .org, .co, .net, .gov, etc.) actually mean? (It's significant that the only addresses without country indicators are those in the USA itself). These are all issued by the US company, National Solutions Inc. of Herndon, Virginia, (Conveniently situated near a well-known intelligence HQ!) who have a government-granted monopoly to issue "domain names". ALL e-mail & Internet traffic using these addresses is steered through their Virginia HQ, wherever its ultimate destination may be.

The Net, although physically decentralised, is actually hierarchically organised. Anyone in the world wanting an Internet address using these suffixes must register with the Internet Network Information Center (sic) or InterNIC, a US government-created central registry. In 1993, NSI took over its administration. This system allows users to substitute user-friendly addresses for the Internet Protocol addresses (number strings). By controlling the keys to prime Internet data, NSI has a monopoly on an enormously lucrative business. They do not publish their financial details but their profits will without doubt be obscenely high.

However, there's more to NSI than this. In 1995 it had been bought by Science Applications International Corp., a company employing 20,000 in 450 offices worldwide, which is inextricably linked with the US Defence Dept. and US intelligence. Its present directors include ex-NSA chief Bobby Inman, ex-Defence Secretary, Melvin Laird, ex-head of research for the Pentagon, Donald Hicks. Past directors have included ex-CIA director, Robert Gates, William Perry (Defence Secretary) & CIA director, John Deutch. 83% of SAIC's revenue (\$2 billion annually) comes from US government contracts - defence, intelligence and law enforcement agencies. [Source - "Covert Action Quarterly"]

With such a dubious pedigree it is inevitable that the NSA & CIA will be using SAIC as an intelligence gathering and controlling asset. Passing ENIGMA material, some of which may be sensitive, over the Internet can be unwise, to say the least. Having a naive faith in technology for its own sake is dangerous. Personally I won't let it seduce me, and use the Internet as little as possible, and the reasons are obvious. An ENIGMA member in Wales handles Internet material for us, and this is where ENIGMA's Internet address is located - it includes ".co". INTERNET USERS BEWARE! - for it's a double-edged sword. Interception of mail will always be difficult, inefficient and labour intensive; interception of e-mail is easy, efficient, routine and automated.

A reply to a letter from John Groat of Caithness

We received this interesting letter in October from an ex-Army SIGINT monitor. Thirty-five years ago he used to monitor a station colloquially known as "Magdeburg Annie" who read out numbers from a transmitting site near Magdeburg. This station was sending messages to Stasi agents in W Germany, and sounds as if it must have been G8. John says, "I find it strange that according to the aims of ENIGMA no one has realised that intelligence services operate numbers stations and have done so for many years... [Of course we realise this, and have done so for many years!]... Even if you track down a transmit site, the public will give an apathetic yawn and say 'So what?' [Quite true, the public tend to be apathetic about most things serious!] ... and the intelligence service of the country concerned is going to deny the existence of the station. [Maybe, but they'd certainly look fools in the process!] ...which defeats your object. [How? Our object is merely to expose the existence of numbers stations, and untangle as much as we can about them as a contribution to the history of the Cold War and HF communications systems in general].

"...You would be better off making ENIGMA more of a numberschasing hobby. [We already do this in a big way!]. The term 'International Conspiracy' is a somewhat dated term. What conspiracy? [Dated or not, it is a conspiracy nevertheless, simply because the intelligence services - and other organisations - have sought to hide these basic verifiable facts from the people of the countries they serve. International - because the ITU is party to the conspiracy, and the intelligence services themselves have co-operated with one another in this area. The sheer hypocrisy inherent in all this shows itself blatantly when the UK government treats low power QSO & broadcast pirates, for example, as if they are all a grave threat to 'emergency communications' (they always use that one, whatever the circumstances). Yet they are happy to use many kilowatts of power wherever they like for covert and military purposes. Many numbers stations pay scant regard to ITU regulations - after all why must MI6's E3 sit in the middle of a broadcast band for years every day. (15682)] ...Every one does it, but no Intelligence Agency worth its salt is going to own up, are they?" [I'm sure they won't, but all they'd lose from doing so would be a little of their mystique - hardly a threat to 'national security'].

In my letter, I enquired about Shenley Church End and Stoke Hammond, two defunct Bucks. sites. "Now that is dated. The station at Shenley was run by GCHQ [yes] and was a DF training station [yes]... You could tell by the four Adcock aerials [presumably a four-aerial Adcock] and the hut in the middle of the field". [I also believe that there was a CDAA here as late as the 1980s, used in conjunction with that of Poundon - dismantled a couple of years ago. Low-power spy transmitters, secreted in the surrounding countryside by DWS were DFed in this way, using these sites and near-range mobile receivers. I visited Stoke Hammond, a much larger site, in the 1970s and it then looked as if it had recently been dismantled].

John categorically denies that radio is used any longer by the SIS (MI6), which as we all know, is far from the truth. He is probably thinking of point-to-point HF comms. HF radio, in the form of Lincolnshire Poacher (E3) & Cherry Ripe (E3A) is still very much alive! So are the irregular covert Morse transmissions made by Special Services. John made a most interesting point when he stated that after DWS (HMGCC) closed Creslow a couple of years ago, SIS looked into its running costs, but declined to take it over, "and so exited radio from the SIS..." If this is true, were SIS planning to bring the Poacher back home? I wonder. More points raised by this letter will be covered in the next issue. I only wish we received more letters of such interest.

LANIVET again - A reader has reported that this site near Bodmin, according to a sign, is still in the hands of BT. Very strong HF signals break through on MW when passing the perimeter. What are BT's HF sites being used for nowadays?

STATION NEWS

Unfortunately, due to a decline in contributions and virtually no logs received since early December, this section is not as up-to-date as it should be. ENIGMA really needs to receive emailed logs WEEKLY, in order to collate them at a steady rate. People sending us small numbers of logs need only do this as and when they can, but preferably within two months of the earliest log. This also helps when compiling news for our Short Wave Magazine column.

As usual there's a lot to report though. The listing of SNs where appropriate gives a rough idea of activity, and helps monitors know which schedules may still be operating. Some of these schedules are short-lived; others have been with us for years. Details of times, freqs etc. can be obtained on request.

As ENIGMA evolves, it may be more useful - if there is enough interest - to issue Station News more regularly, say quarterly. If this is what you want, then we can't do it without more help - all contributions are much appreciated.

Before we begin, I felt that I must comment on just how little is understood about European numbers stations in the USA. In October's "Monitoring Times" Hugh Stegman says, "The 'Russian Man' [which one?], 'English Man' [again, which one?], 'Czech Lady' [again, which one?] and 'German Lady' [AGAIN, which one?] and all the rest of the 'Russian Family' are indeed from Russia... [What a very sweeping remark! Not all "German Ladies" come from Russia by any means (Hungary, Poland, Austria), no "Czech Ladies" do so, and what does he mean by "all the rest"?... using an odd computerised voice which can sound either male or female depending on conditions. [What's he referring to now? Presumably only E17y which uses a sampled deep female voice - as does E17z. Surely conditions affect all voices equally?]" As for the suggestion of a possible Mexican site, surely Cuba would be the most likely candidate. I could cite countless similar examples, overwhelmingly from US sources, and also from MT's Utility Loggings, and from many articles dedicated to Numbers Stations - from Havana Moon onwards (where his anti-Cuba stance was the only thing we could rely on) - but it wouldn't serve any further purpose.

All I can say is that as long as the "experts" continue spouting such nonsense, there is need for ENIGMA. At least we try not to avoid wild speculation, and are consistent with our naming system - no longer referring to vague "Russian Men" etc. A good example of trivialisation can be found in a article from the USA which Simon Mason has included in this issue. ENIGMA must never begin to follow such a path!

Family Ia - Russian

M14 & M14A - 136, 137 (1st ever report from USA), 207, 239, 263(A), 325, 362 (normally M14A but also noted on 16.9 2315 4040 sending null), 403, 409, 517, 529, 560(A), 637 (USA), 652, 713, 835, 863 (USA), 871, 891, 953, 986. It's good to hear reports of Russian Morse stations coming in from USA.

E6 - 103, 132, 137, 138, 147, 152, 178, 198, 239, 325, 327, 387, 396, 428, 471, 531, 549, 591, 601, 623, 705 (251 grp on 6.9, and see S6), 713, 725, 728, 754, 805, 819, 928, 931, 967, 971, 989. On 24.11 an E6 (?-149/78) was reported using 9700 in the 31m BC band - a Rx or Tx error maybe?

E6C - On Thu 19.8 a never previously reported dual message E6 appeared - SN 362 and consecutive DKs: 591/93 & 591/98. See article on V23 in this issue.

E17y - 398 noted in USA with parallels reported for first time (0200 2.9)- 10863//14540. Other trs include:-

6855, 6867 (538), 9142 (IP 0750), 10450, 10899 (6.7 0115: 371), 11148 (Sep 0200), 13452 (Jul 0300: 621), 14540 (Sep 0100: 547), 14560 (Oct 0100: 849), 14880 (0100), 15692 (0140)

E17z - always 274: July 0615 10443, Aug 1255, 1435 & 1530 10240; Nov 2100 8140; the 1530 tr appeared on 9.8 (188/30) and on same day at 1547 it was found again in progress on 8180. Repeats are not usual - this may have been a different message or even E17y, although as it was received in Europe it's unlikely at that time. Absence of details (DK/GC) means we can never now be sure.

G6 - 328, 531, 564, 609 (New schedule 6.7 0400 10440, SN not reported) 1st Mon/Tue 1900 & 2000, 2nd Sat/Sun 2020

G6A - dual message special operation SN 362 at 1500:

Tue 17.8 9325: 558/82, 559/88

Wed 18.8 14975: 576/95, 577/92

Thu 19.8 9325: 595/95, 596/?

Fri 20.8 14975: 612/83 See article on V23 in this issue.

S6 - 102, 122 (strong in Japan), 159?, 265, 287, 415, 418, 453, 502, 590, 592, 604, 724, 826, 971 (only heard once -with typical E17z-type technical problems on 23.10 IP1958 6920: 543/60, eventually ended 2026). All days of week.

S6B in July on 8140 ending 2205 "11111 00000"

An odd variant appeared on 18.8 2000 10410: 592 592 592 99999

An unscheduled? S6 (SN missed) appeared on Mon 18.10 2000 9174 with DK/GC of 235/157. On next day 2000 9168 an E6 705235/157 - almost certainly the same message. Another on 23.11 2115 8130: 346-528/97, following an E6 on 22.11 2100 8125: 7528/97 (SN missed).

V6 - 453, 591 (1st Fri 2100 & 2200)

V6A - 362 See article on V23 in this issue.

V23 NEW DESIGNATION - See article in this issue.

S25 - No reports, now assumed extinct.

Family Ib - Russia

Repeats usually rise in frequency in European mornings and fall in the evenings.

M12 - 082, 135#, 147, 169, 242, 257#, 258, 269, 275, 289 (279 grps on 1.10, 331 17.10), 302, 326, 351 (311 grp on 3.9) 363, 416, 418, 419 (373 grp 5.11) 446, 521, 541, 555 (yes! Freqrelated 14521-13521-12521), 557, 658*, 578, 691, 749*, 750, 791, 840 (GC 227 22.10), 886, 941 (GC 333 3.9, 299 17.9, 301 24.9), 949, 957, 963#. * Special & linked, # Linked with *

E7 - 144, 172, 174, 319, 825, 845, 886

G7 - 267 (GC 279 29.11), 359, 418 (18min call once!), 531, 703, 742 Since July all on Mon & Wed.

S7 - 048, 411, 415, 481, 826, 915. Only Mon, Tue & Sat over this period.

V7 - 074, 103, 130, 148, 159, 234, 403, 407, 609, 710
Mon 2000, Tue 0600, Thu 0600, Fri 2000

XPH - 158 (248 grps on 1.10), 314, 511 (89 grps on 1.10), 645, 648, 69? Tue & Thu 0600 & 2000
Tones used (in Hz): 305, 321, 337, 355, 371, 387, 403, 436, 452, 468, 484, 499 & 502. 321 & 499 are used to provide sync. to change mode from low to high speed data. 305 is used as a break (=) within hi-speed data. Many thanks for various contributions on this - an article is planned.

Family Ic - see Buzz page

Family II - USA

E5 has been sending several test transmissions over the period, e.g. no call but repeating 123 45 234 56 345 67 567 89 098 76 987 65... etc. Sometimes an ?arbitrary call and GC (215) is included. Regular tests over a few days appeared on 4575 at 2300 & again on 10616 at 0000. Considering who runs this outfit, activity levels aren't particularly high.

V5 - noted with four parallels on 20.9 0300: 4640//5046//12300.5//14421 (709/220) All trs seem to be 0100, 0200 or 0300. Also 065, 375, 382, 407, 580, 631, 916, 940 & 988 noted. Does anyone know if

these are SNs or not?

Since last summer GCs of over 215 have begun to reappear on both E5 & V5, e.g. 217, 220, 235 (highest)

Family III

No unexpected changes. Usual high null message rate.

M3 - 010, 011, 013, 015, 017, 035, 038, 040, 041, 042, 043, 044, 121(special), 182, 211, 214, 216, 287, 503, 508, 552, 624, 743, 976. New freq 6210.

E11 - 183 (Tue & Thu 1300 9950s/8033w), 187 (last Fri 1200 9130)

G11 - No reports but will almost certainly reappear.

S11A - 971 only at present (1st Wed 2100)

Family VI - Germany

No reports since July when WL was logged. It looks as if this once very active family has dwindled to nothing. Even so, we should still be looking out for transmissions. All the regulars may have ended, but the mysterious irregular AU could well appear at any time. Any information on the present state of the BND would be very welcome.

Family VII

M17 - No changes reported - Wed 2000 3410-3910-4740 SN 70
(winter freqs) Thu 2130 3410-3910-4740 SN 66

E1 - No changes reported.

Family IXa - Czech/Slovakia

M7 - No significant changes. New SN 678.

M10 - 071, 074/431, 127/801, 186/450, 249/071, 419?, 434, 473/919, 483/919, 571/275*/049/735, 619/071, 633/801, 850, 853, 968/652, 968/417 *275 began alternating with 532 again in October - sent 144 groups on 30.10. Note also the appearance of 071, 652 & 919 each in two different schedules. 249 sent 161 groups on 11.10 - unusually high.

A new schedule at 0140 (Sun 26.9) on 7745//? logged in USA, SNs not reported. Please always include these when possible - this is the only way we can track schedules.

M10E - 0700 1400 1655 2100 Note new 0700 schedule.

	MWF	D	D
April	9950	13066	9128
May	10323	13415	9930
June	10747	13326	107??
July	10672	12962	10840
August	11388	13172	10157
Sept	9814	12781	8835
Oct	8044	10157	11967 8814/8835
Nov	7949	9932	11634 7996

S10E - The usual M10E at 1000 on 5019 continues every 28 days Thu-Tue along with its voice equivalent still at 1300 on 10642. Cycles for year 2000 begin on Thu Jan 8, Feb 5, Mar 5, Apr 2, Apr 30, May 28, Jun 25, etc. All send four messages never repeated, typically 16-20 groups.

"Family IXb" - Is OLX still alive? Logged on 16272.5 in September OLX88 was calling OL7 and OLX68 "QSX D MIN 6 QAP" "QSX QSV" then "TEST QSU E" several times, then off. ?!?!

Family IXc - Czech/Slovakia

M39 - examples: 15.9 0655 6620;
220-?/?/?/49201;
813-20341/85156/06207/82852;
494-54093/77478/91996/46514 end 0725;
start 0729: 947-81796/28284/59643/88059 end 0741;

15.9 1305 7966:
764-26014/23991/13721/20300;
1315: 198-47159/90739/01029/45434;
1330: 445-09711/54840/67113/13975

S17C - Still daily 1250 8190/6945

Family X - Britain - this section follows later

E3 - No changes
E3A - Schedule now as follows (Mon to Fri only):
1000: 20474//23461
1100, 1200: 17499//23461
2200: 17499//24644
1300, 2300, 0000: 17499//22108
0100: 19884//21866

Family XI

M4 & E23 - No changes to report.

Family XIII

All start at 25sec after nominal ST. Why?

M29 - Several schedules still operating, daily & weekly.
Long-term information is being compiled for an article.
Busier than G4 below.

G4 - Sun/Thu schedule freq. use from Jan 1999:
JAN 3415+ NOTE: Repeats sent 100kHz lower.
FEB 3905+
MAR 4520+ 2005 & R2035 Summer
APR 5310+ 2105 & R2005 Winter
MAY 5570+
JUN 5720+
JUL 5680-
AUG 5730+
SEP 5320-
OCT# 5320=
NOV* 3910- # In Oct Thu freqs were different: 4640 &
DEC 3360- 4540.
JAN00 3440+

* Very strange transmission: 26 GC - no double or triple groups, only two groups with same 1st two figures, no groups with same last three figs, no figure 9 in whole message, groups commencing with 0. In other words, a far more random sequence than usual. December's message had similar

characteristics.

Hans-Friedrich (Germany) has regularly sent in transcripts of each of these G4 transmissions which will be used in a future article.

Family XIV - Russia

M1 - 025, 043, 103, 168, 197, 271, 298, 302, 362, 382, 463, 514 (91 GC 2.11 - very high), 708, 719, 729, 871, 931

The "A" network (025, 197 & 463) continues as usual six times weekly, complete with EoM transmissions (three per month). Since our last comment on "A" Network GCs, they have now risen to the usual 40 region, more typical of these schedules.

M1D - 331 All on 5730/1kHz

Wed 29.9 0700 R0800: 331-961/22

Thu 30.9 0600 331-53764, 331-53852, 30x5f msg

Thu 30.9 0700 331-53270, rest u/r

For want of a better name we've called this oddity M1D, but really it seems a "variant" of M1C.

M45 - Still twice weekly, no changes. 074, 525 (Nov 4025//3525), 555 (4855//4555)

S21 - 454 (No changes Tue & Thu 1842 4954//4454)

Family XV

M13 - 145 (new, MN 248), 228, 253, 254, 261, 284, 346, 365, 378, 387(A), 411, 417, 427, 448, 458, 517, 521(A), 629, 714, 732, 753 (new, Nov MN 248 - along with 145 highest of them all; where have they been all this time?), 823, 847(A), 880. Our very first report from USA on 7724 at 0300 - keep them coming in, but please give Schedule & Message Numbers whenever possible.

E18 - SN 307 only. In July - message serial number was still only 141, compared to G22's 199 in same month. In June reported on 1st Sat & Sun, yet in Aug 2nd Wed & Thu 2100 8025 & 2200 7840. By Oct (same days) 2100 6545 & 2200 not known.

G22 - SN 886 - 2100 & 2200: 6683 (July), 4589 (Oct MN 202). Unlike M13, freqs. don't change monthly, but less often, perhaps only for Winter/Summer. Messages tend to be shorter than E18's.

S4 - "Edna Sednitzer" REACTIVATED after a long absence! In November on 3373 LSB, 2nd (& 4th?) Tuesday at 2258 (ST 2230?). Repeat tr likely to be at same time, different day. SN 342, message (serial) number for Nov 190, GC 138 (high - like E18)

Family XVIII - Cuba (see feature in this issue)

M8 - More active than V2. Repeats are usually sent an hour later, as well as sending again on at least two other paired time-slots. Each time the last figure of the message's 5fig header is changed - 1,2,3. The third header group has occasionally been reported as having four figures, but more logs are needed before we can see any possible patterns.

V2/V2A - Most activity heard in Europe 0100-1100. V2A (fixed GCs of 150/150/150) is much more common than V2 nowadays. We hope to write a summary of this very active family.

Family XIX - France

M16 (8BY) - No changes to this very busy station.

M51 - To give an idea of the complexity of this station, its freqs noted 1999 included: 7937.5//?, 7712//?, 7387.5//?, 7340//6976.5, 6984//5787 or 5336, 6981//6950, 6974.5//?, 6888.5//?, 6839//5279, 5907//4552.5, 5904.5//5318, 5892//5838, 5870//5226, 5740//?, 5425//?, 5377//?, 5320//3771, 5224//3757 or

3730, 5192.5//3745, 5189.5//3708, 4597.5//?, 4447//2548, 4039//2567, 4025//3381 or 2563, 3800//?, 3824//?, 2712//?, 2290//? More will exist. Note the wide spacing variation.

Freqs logged 1998: 2553 2565 3710 3745 3822 3881 4018.5 4021 4024 4030 4035 4038 4060 4065 4622 4874 5221 5224 5245 5297.5 5329 5334.5 5407 4520 5425 5520 5746 5787 5791 5870 5898 5905 5922 6839 6888.5 6925 6940 6946 6954 6963 6974.5 6983 7390 7803 7830 7846 8043 8057 8180 9202 10566 10688 14878 18444.5

An attempt at scheduling has been made, and it appears that its operation isn't as random as we once thought. On 27.10 active frequencies at this time were:

A-3692//5149, B-4495//5869, C-6925//6963 UTC morning/afternoon

D-2550//3959, E-5319.5//6941, F-7317.5//???? UTC evening/night

From this, an expected schedule for the rest of the week was predicted as:-

	WED 27.10	THU 28.10	FRI 29.10
0430	B	A	C
0530	A	C	B
1000	C	B	A
1500	E	F	D
1830	F	D	E
2200	D	E	F

Unfortunately for us, all schedules change weekly!

No family allocated (0)

M23

1000 (1600 in Nov) 6999kHz: 00000, 22222; 1640 7796: 66666
7795kHz: 002, 024, 062, 080, 082, 224, 240, 242, 268, 406, 426, 482, 486, 606, 624(1st grp 00000), 666, 668, 680, 802, 828, 862, 868, 880, 882, 884. By November this long-running 7796 operation had settled to twice daily at 1028 & 1558.

"Normal" schedules (all are null-message IDs; 579 may be the only odd-even type around at present): 130 (Oct 1930 on 16540 [highest known freq] - very strong in USA), 160, 310, 320, 532, 579 (has been sending "nothing" for years now twice daily 0800 & 1400 9285//8307 - when will it ever send a message? will it ever end?). Our very first report from USA, a second 320 schedule at 0300. New freqs noted: 16540, 11480, 10475, 10015, 7940, 5785. As M23 tends to be rather conservative over its frequency use, is it purely coincidence that since we published the freq list in our Booklet (part 1), all these new freqs have come into use? The use of 16450 clearly indicates the worldwide interests behind this operation.

One of its many variants (not heard for a few years) appeared on 27.8 1700-1820 (!) 11480: iiiiiii... vvvvv... = 100:100 = (5f x100). Whole sequence repeated many times, which is not typical.

0 M26/34

Occasional erratic operation as usual.

M28 (HEP) - No reports since May. It looks as if HEP, run by the Swiss Cantonpolizei has ceased operation after many years. traffic has never been heard, merely the ever-repeated channel markers. A single transmitter operated a continuous four frequency cycle, each with its own callsign suffix: HEP3 3314, HEP5 5266.5, HEP7 6871 & HEP9 on 9186kHz.

"M32"- four-character Collective Callsign stations

One example of very many stations, usually Russian military, classed for convenience as M32: 18.8 at 1430 15872:-

KL7M KL7M QTC 210 38 18 1830 210 = ZUV 943 = 8847 1049 6592 6943 5856 7432 5807 7031 3719 5962 9853 2009 1898 3983 9637 3843 4135 0149 7995 4128 2758 0785 6843 1776 4490 9263 0006 0563

8420 6335 0037 9711 8801 0503 1834 = 139 = KL7M KL7M QTC (repeat all except ZUV 943. Note: 35 groups, but 38 should include the two appointment codes, but here it's still one out! A logging error maybe). Short zeroes.

On 30.9 another 4-fig station was logged around 10.95MHz at 0700: (c/s)... QTC (3f)...= 4f groups = (GC GC) = 3f AR

M82 NEW DESIGNATION - "BML" often reported in Japan on 4700 (sometimes hand-sent). Format examples: VVV JVG JVG JVG DE BML BML QSA5 QSA5 QTC 039 [all x5] QTC NR 039 95 18 1024 2100 602 403 = (5fig grps) ABV QTC NR 039 95 18 1024 2100 602 403 = (R) KK. If these call signs are ITU registered then China is sending messages to Mongolia, however, it is believed to be another N Korean operation. Note the long preamble.

O M40 (formerly M53) - All schedules DAILY.

This N Korean intelligence station is a far bigger operation than we expected. Reports from Russia and Japan are very numerous. However, in Europe only the SNs 515 & 747 have yet been ever heard, and are relatively easy to find in the evenings. These are the only ICW transmissions; all the others use MCW. The following is an example of the extent of its schedules (far from complete):-

SN	Time	Freq	Time	Known SNs
000	0915	5580	0000	600
01	1530	4650	0700	515, 838
88	1600	4495	0815	550
260	1330	13850	0830	550, 747
428	0930	8100	0900	542, 838
429	1730	6900	0915	000
515*	0700	10242	0930	428, 515, 600
515*	0930	9947/12161	1030	542, 747
515*	1200	6848	1200	515
515*	1330	4730	1230	542
515*	1700	12300		
515*	1800	8119	1330	260, 515, 516, 747
515*	2130	8119	1400	613, 989
515*	2230	10994	1430	516, 550
516	1330	12540	1530	01, 863
516	1430	12420	1600	88, 747
516	2230	13254	1630	931
542	0900	8825	1700	515, 747
542	1030	19300	1730	429, 627
542	1230	18310	1800	515
550	0815	5745	2000	747
550	0830	5100	2100	747
550	1430	4100	2130	515
600	0000	12800	2200	747
600	0930	7600	2230	515, 516
613	1400	5750		
627	1730	3600/9200	0800	747
747*	0800	8260	0630	466
747*	0830	8756/10620		
747*	1030	8235		
747*	1330	8756		
747*	1600	8231		
747*	1700	8231/5		
747*	2000	8231/10621/6820		
747*	2100	8231/6820	*See also below.	
747*	2200	8260		
838	0700	9827		

838 0900 10108
 863 1530 7400
 931 1630 13000
 989 1400 4597
 466 0630 2860

Other schedules:-

	Nov-Feb	Mar/Apr	Sep/Oct	May-Aug
113:	1400/1600	1430/1630		
	5150//4700	5590//6630		5810//8210
295:	1630	5210		
432:	1400/1500	1430/1530		
	5535//4600			
466:	1500/1600	1530/1630		
	4660//5650	5150//5810		5650//6870
515 (ICW):	1700 1730			
	12300//16100			
???:	0630 (Tue-Thu)		8110	8620
616:	(4th, 5th, 20th & 21st of each month)			2300 2330
	8110//8880			
707:	1630	4670//5200		
735:	1600 1630		5190//5900	
747 (ICW):	0900/1000/2000	0930/1030/2030		
	10520//12948			
863:	1400/1500	1430/1530		5535//7400
909:	1630		5670//6425	
974:	1400/1500	1430/1530		5535//6750

Frequencies change in March, May, September & November. Messages are rebroadcast 30min later except for those of 707 & 909. These two replace one another with freq changes, as also do 863 & 974. The same messages are repeated for two days at same time & freq. At least four transmitters are used.

0 M52/56

Occasional flurries of activity as usual in the 4-6MHz region. Probably a certain Western Special Forces control station. A feature is being prepared.

M63 (A2A)

Has been operating on 5807 & 6763 at 0500 calling its outstations which reply on 4753. Also operates in 3MHz region and at 1100. Rarely reported, yet quite active.

0 M76

With improved conditions M76 re-appeared in W Europe on its usual 3819 daily at 1750 by early November. In the summer, this station moves lower in frequency to 3293. Morning schedule now located at 0458 on 3819. Note that the 1750 tr on one day uses the same call signs as the 1458 tr on the following day, however, traffic is different. By the way, Richard (Bucks) asks whether the numerous four-character stations he has heard since at least 1993 are M76. No, they are quite another group, all collectively known as "M32" - far too active and too many for us to seriously investigate!

0 M78/XPL - No reports in past few months. This flurry of seemingly pointless activity seems to have come to nothing.

M80 NEW DESIGNATION - Heard on Wed 11.8 1754-1757 on 4858 repeatedly sending "847 847 847 97333 97333" then off.

M81 NEW DESIGNATION - Logged 25.8 1900 14630, sent at 40wpm with LONG zero - probably Western?

B42 B42 B42 DE G21 G21 G21 (R5)

NR 1/25 GR 26 = =

9537 7835 8535 4568 1420 7841 0012 7849 2593 2541 1154 8895 7465 3207 8790 0014 7424 7961 2496
1677 6368 2755 1041 0859 1052 1254 = = ? ? = = NR 1/25 GR 26 (Rmsg) AR AR

Another four-figure group station, whose ending AR AR suggests that it's been around for some time.

0 MX

The main news is that all the cluster SLTs regularly heard in Europe ceased transmitting in the Autumn, however, they are now back again but operating erratically.

Cluster SLTs appear to be used by the Russian Navy (especially the submarine branch) to check on the most suitable bands for propagation (official source). It is just as likely that they are also used by agents needing to transmit messages back to Russia, and it is significant that these "beacons" are not generally to be found in maritime bands.

C Moscow, D Odessa, F Vladivostok, P Kaliningrad, S Arkangelsk are the generally accepted locations. A list of frequencies was also included, which was incomplete as all these stations transmitted in all the permanent cluster bands, and two bands 4556 (new) & 3595 (occasional) were omitted. Frequencies given for P were all non-cluster freqs, whereas there are actually two different sets of P SLTs, one set using all the cluster bands and the other being short-lived and followed by Morse/RTTY messages - those listed as 3167, 3208, 3469, 3807, 4031, 4043, 4476, 5111, 6873.

"F" is strong in Japan in all cluster bands.

In Japan "K" is occasionally found in a cluster bands (5 & 7MHz) - from Petropavlovsk Kamchatky?

Solitary "R" 6643 from 7560 - continuous for some weeks.

September, "A" 8007 Nov (very rare)

Continuous "R" regularly heard on 4325, 3322 & 3195.

Continuous chirpy "L" still present on 3339.

Irregular "V" last heard on 3658.

0 E10 - Israel

A few new message strings include: KPA20MN, VLB18P46B55, VLB15P36L44F1666, VLBC2, VLB18P16R56F46. These strings were particularly active from 17-20 July. Also HNC-M on 6575, and the new FDU-R on 6211kHz.

ZWL noted for first time on 5000 and 14000kHz.

0 E15 - Egypt

No changes. FYP and E10 (ZWL) were operating simultaneously on 14000 at 1400. As E15 was "here first", Israel's same choice of frequency becomes highly suspicious.

0 S31 NEW DESIGNATION

This station first came to our notice in August 1999 and originates in the Czech Republic. It operates on the unusually low frequencies of 1122kHz and 2136kHz. 2136 operates seven days per week at 1745 and weekends at 0700. The MW freq sends for two minutes at h+10 & h+40 24 hours per day from a transmitter near Prague. Transmissions start with three sets of three tones, each tone being progressively higher in pitch. A short pause is followed by the "message", read by a Czech female voice - counting from 50 to 59 several times, then the tones again and a repeat of the numbers. Many variations on this theme exist - counts may not begin at 50 and end at 59, number of count cycles

varies between 9 and 19, or there may be no "repeat". However, the consecutive numbers never change and are always 50-59. Although the word "padeset" (50) has been reported, I have distinctly heard "patitsa" (as used by S8 for 5).

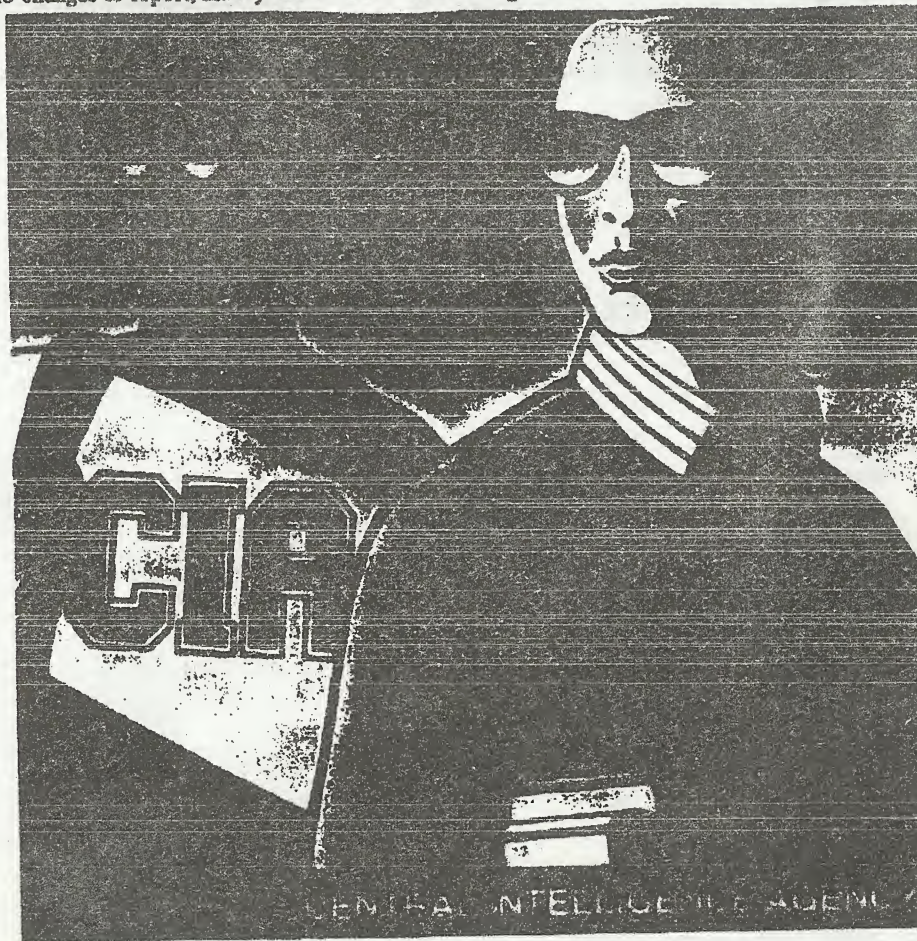
0 X6 - Russia

Nothing to report except that these tuneless ditties are still very much with us, and as unpredictable as ever. Reported three times on 1.10: 1705 13925; 2010 10712 (message); 2230 6851. Still no patterns established.

0 XPL - (see also M78)

This low-pitch Polytone may or may not be connected with an identical-sounding signal which is associated with a distinctive hand-keyed 'piccolo-type' transmission which has been heard erratically over the past few years. In this present case, though, it is part of M78's repertoire.

Note - All stations listed in July's Newsletter, but not listed here, are either still active or presumed so, but no changes to report, mainly due to lack of monitoring.



The CIA's task is twofold: to coordinate the intelligence efforts of the U.S. government, and to collect, evaluate, analyze, produce, and disseminate foreign intelligence. Since its foundation, the CIA has provided and continues to provide the most accurate, comprehensive, and objective information available about national security matters.

The CIA has a limited number of positions available for applicants with backgrounds in computer science; electrical engineering; Asian, Slavic and Middle Eastern languages; economics; and

international relations.

Positions are open to U.S. citizens of all ethnic and cultural backgrounds. Salaries are competitive. Successful completion of medical and psychological evaluations, a polygraph interview, and an extensive background investigation are required.



OUR BUSINESS IS KNOWING THE WORLD. BUSINESS

FAMILY II - CIA

E5 COUNTING STATION 3/2F ENGLISH - Traffic levels remain high. Schedules continue to evolve making reproduction in the newsletter outdated soon after printing. All kinds of test transmissions have been noted across Europe, North America and Asia. These tests tend to consist of 'dummy counts' extra long messages and frequent changes in the mode of operation between AM, AM reduced Carrier and USB. An example is given below courtesy of Peter (Saffron Walden).

Normal call-up, in this example 04Z: with carrier, "Count" as normal after ten minutes: - 215.5 figure groups proceeded as usual until 16.17 when there was a break for just over a minute; voice returned, still with carrier. Another break of over a minute at 16.24; returned with carrier suppressed, i.e. USB mode, and by this time I had found the // on 10253 kHz on another receiver, much stronger than on 11072. Another break at 16.30 UTC, just after the word "repeat", I timed this break as 1 minute 27 seconds and voice came back with carrier. There was another break at 16.37 of over a minute after which the voice returned still with carrier. Another break of over a minute at 16.44 after which the voice returned in SSB suppressed carrier mode until "End" at 16.50.

In North America there is a regular schedule at 00.00 UTC in the 4 & 5 MHz band (logs indicate MON to SAT). Curiously the frequency usage is rather odd. Some reports indicate two transmissions operating on 4635//5812 and 4640//5046. Why use 4635 & 4640 confusing? Two sites different targets? Some of the pairs heard in Europe are also rather wide on frequency spacing 5175//8085 and 9070//14905 are good examples. Another odd example is the use of 5885//7430 both suffer heavy broadcast interference.

V5 COUNTING STATION 3/2F SPANISH - Most transmissions are best received in the United States and surrounds. You also need to be listening in the dead of night in Europe! In years gone by there were some transmissions in the European evenings. The partial schedule based on reports received is as follows:

MON	TUE	WED	THU	FRI	SAT	SUN
03.00	03.00	01.00	03.00 & 05.00	01.00	03.00	?
10665//11491	12300//14421	13452//15651	10665//11491	13452//15651	12300//14421	

FAMILY VI BND - How the mighty have fallen. This set-up must represent the biggest fall off of any intelligence service radio service in history? The re-unification of Germany has finally (virtually) killed this network.

E16 - 2 LETTER - ENGLISH - We have had just one report of Alpha Uniform on 4888//4821 kHz in English since June 1999. It could still be around.

G16 - 2 LETTER - GERMAN - It seems that June was the last time any transmissions were heard. The last two heard were Golf Kilo (GK) - sending to 477 & Whisky Lima (WL) - sending to 522. We are not saying that this family is now closed, it is still possible that some transmissions are still around or may return for special operations, particularly the 'special' AU. Thank goodness we have an excellent database and recording of this key Cold War player.

FAMILY X - MI6 - E3 'LINCOLNSHIRE POACHER' - No major changes to report. Still operating to the schedule published in Issue 16. Jamming continues to affect many transmission.

E3A) (formerly E4) 'CHERRY RIPE' - The schedule continues to evolve but still remains on air MON-FRI only. Our thanks to Simon (Australia) and Ian (New Zealand). The present schedule is as follows:

MON-FRI only	10.00	20474//23461	22.00	17499//24644
	11.00	17499//23461	23.00	17499//22108
	12.00	17499//23461	00.00	17499//22108
	13.00	17499//22108	01.00	19884//21866

According to a report from John (Arkansas) some "diesel engine" style jammers have been noted around 21.00 on the following frequencies: 19647, 20190, 20474, 23411, 24240. Any ideas?

FAMILY XII 6647 & 11292 kHz - ALGERIAN INTELLIGENCE ? - E9 (formerly MAGNETIC FIELDS) - Although E9 is not at present active it has managed to cause a problem with our identification system by allowing its sister station V8 (see below) to use its on-air musical introduction "Magnetic Fields" followed by a transmission in Arabic. Previously "Magnetic Fields" was only associated with English language transmissions.

V8 (formerly EASTERN MUSIC STATION) - This station is now using the "Magnetic Fields" musical introduction in place of its previous 'Arab style' piece. The music chosen relates to schedule, not language, as previously assumed. We can however tell you more about this piece of music, with thanks to Christian and Andreas (Germany) for the following information. The music used by the station is reported to be played by a European musician. Jorgen Ingmann (phon.) a Danish guitar player produced the piece on the 'B' side of a 1960 record. His title of the music is "Sahara". He also made a recording of a Greek folk song, "Parastos" (for years used as the interval signal for the Greek programmes of German public radio for Greeks living in Germany), and he titled this piece "Korfu".

The schedule seems to be changing. Previous transmissions were always sent on the first or second SAT of the month at either 18.00 or 19.00 on 6645 kHz. Transmissions were reported on May 8th, June 5th and July 3rd. In October the station appeared on MON 11th October and MON 25th October at 19.00 on 6645 kHz. The signal strength seems to have improved considerably and modulation (still a bit low) is much better. Technical problems also seem to have diminished. On the MON 11th October transmission a slight fault did occur. At 19.09 a male voice in Arabic was heard for about 20 seconds (it sounded like the end of the news) on the same audio feed as the numbers message. This was quickly switched off.

STATION NEWS - OTHERS (O)

O - E10 PHONETIC ALPHABET - NATO - ISRAEL - According to an exclusive story, Foreign Report reveals the existence of a fourth and hitherto secret intelligence agency in Israel. So far as was known, Israel has had three agencies: The Mossad secret intelligence service; the military intelligence service (AMAN); and the security service (Shin Bet). The report indicates there is a fourth organisation that has for years been working secretly for the defence ministry in Tel Aviv. (JANES Defence Review). With regards to our feature on E10 (last issue), Hans-Friedrich (Germany) writes. "Very good article". He makes the following comments.

p.20: Reference stations only operating on allocated frequencies - 3150 ART and PCD according to your list. "I've never heard ART on 3150, but on 10125 in 1995. Numbers & Oddities only listed 3415 and 5437 for ART."

p.21. "According to my logs from 1997-1999 these are the starting times for normal transmissions (!):
CIO starts at h+15, h+45 SYN starts at h+00, h+30, h+45
KPA starts at h+00, h+15 VLB starts at h+00, h+45
MIW starts at h+00, h+15

p.22: With reference to call sign construction. With GPO there are four further exceptions, with GPO there is one further exception: GBZ U LX CIO GPO
GPO VLB GPO KPA

Despite a prevailing view in Numbers & Oddities Newsletter that station 4XZ (M22) is not a numbers station, readers may be interested in the following from John (USA) "Listening to E10 station MIW at 03.15, a strange incident occurred. Faintly in the background on 13921, I could hear a 4XZ marker. When the MIW2 broadcast concluded at 03.18, the 4XZ marker disappeared (of course guilt by association doesn't really count). This wasn't audible on 10970. Obviously they were mixing". Thanks also to Harald (Germany) for your comment that modern navies still use Morse code.

We have examined all your logs since the last issue and the following can be added to our feature on E10 stations (Issue 17).

<u>CIO</u>	<u>KPA</u>	<u>MIW</u>	<u>SYN</u>	<u>VLB</u>	<u>PCD</u>	<u>YHF</u>	<u>FDU</u>
1735	10125	3090	5530	14866	8805	9382	6211
3485		13921	10125				
		18177					

We can confirm that PCD is still using 6500 although this is not audible in the U.K. due to severe interference from a wide band signal (FSK). PCD is using 8805 (in the Maritime Band) for some transmissions. The most interesting catch in recent months was new call FDU sending FDU-R at 19.55 on August 10th on frequency 6211 kHz. We also received an interesting letter from Simon (Shropshire) which gives us further clues about how this network operates. He writes "On the evening of November 7th (Sun) I was following all the E10 transmissions (something I do most evenings). On 5091 kHz JSR had just finished a short message at 17.42 when the transmitter went dead very quickly for about 10 seconds. It then came back on very briefly and gave the message 'FUD 5' just once, then disappeared again!" (Ed Note: This may well have been FDU setting up ready to transmit on another frequency).

Other unusual calls heard in recent months have included:

KPA	20D	HNC	M	VLB	15P54T1844	FDU	R
KPA	23CZ44	HNC	K	VLB	18P16R56F4	FDU	5
KPA	OMN			VLB	45L36F19T48B1338		

O - E15 PHONETIC ALPHABET - FRE NATO - EGYPT - No major changes to report although transmissions can be erratic and start times may vary slightly. See further comments about E15 in our Holiday Listening report in this issue.

11.00	BEC	18000	14.00	FYP	14000	18.00	USP	5834
12.00	USP	17503	16.30	MSA	6716	19.00	SAR	4130
12.30	MSA	11170	17.00	FYP	14000	20.00	NAS	5530
13.00	BEC	11000	17.30	OSS	5834	21.00	OSS	4130

O - V13 "NEW STAR BROADCASTING" - TAIWAN - John (Arkansas) reports that "New Star Radio" (V13) did not appear on any frequency at 12.00, 12.30, 13.00 and 13.30 on Tuesday 21st September 1999 following the earthquake which damaged power supplies and buildings in Taiwan. The station is giving good reception in the United States. Try the following frequencies: 8300, 9725, 11430, 13750 and 15388. In Europe try 8300 around 14.00 or 22.00.

O - V15 NORTH KOREAN - VIA RADIO PYONGYANG - The British DX Club journal 'Communication' carried the following in a recent issue. Korea (North) The Asian Broadcast Institute has put out an excellent multi-media presentation on the numbers stations of North Korea.
<<http://www.246.ne.jp/~abi/rausu/rausu-e.htm>>

O - V22 CHINESE - This station was noted in the United States on September 21st (the day of the earthquake in Taiwan) on 8375 at 13.00 and 13.30 for the first time since spring.

S30) CZECH COUNTING - Rimantas (Lithuania) reports the following details about shortwave transmitting sites near Prague: Drevcice, 10 km North/North-East from Prague - "unknown facility, perhaps for some military use"; at least 1 log-periodic and a few dipole antennas; Zellenec, 7 km North-East from Prague - "top secret centre equipped with log-periodic antennas, H-(T-?) dipoles and rhombics, belonging to the Ministry of Foreign affairs"; Hradestin, 12 km East/South east from Prague - "mystery centre from which originate counting transmissions on 1122 kHz.

Reception in the UK is only fair. The schedule is reported to be:

SAT & SUN 07.00 and 16.45 on 2136 kHz and 1122 kHz MW. We have also received a report of a transmission on WED at 17.00 on 2136 kHz.

O - X6 THE SIX TONE REPEATING - Nothing major to report. X6 continues to be quite active and follows its usual pattern of no fixed frequencies or transmission times.

V2/M8 FEEDBACK

Following on from our feature on V2/M8 in the last issue - John the author of the piece wrote in with some comments in response to our own additional notes which were added at the end of his feature.

You wrote some additional comments at the end of the V2 article that are not necessarily true. Here are a few observations I've made about the "Atencion" message headers which led me to write what I did.

1) V2 transmissions will repeat the same message text for weeks and the "Atencion XXX ##" will not change. For example, recent logs show the 03.00 Wednesday 9260 broadcast sent "Atencion 616 04" with the same message for eight consecutive weeks. The 04 has not changed.

2) I've recorded instances on V2a/M8a where the last digit does not always ascend in order. There are also instances where the same message is repeated days apart and the digit does not change. There is an example of this given below.

3) The number 9 is used occasionally in message headers. Much more often than 4 or 5. Here's two examples that show where the digit did not change.

4479	03.00	6/9/99	Atencion	08991	<u>16549</u>	21551
4028	05.00	6/11/99	Atencion	<u>16459</u>	02451	36401
4479	03.00	8/11/99	Atencion	29542	62919	01811

The 16549 header didn't appear prior to this with any other digit. This last number has to represent something other than the number of times the message has been sent. I have dozens of logs where a header first appeared using 2/3/4/5 and was not logged by myself or anyone else previously using any lower digit. In winter I estimate I log 50-60% of their broadcasts so I am reasonably certain this is correct.

I cannot attest for Europe, but V2/M8 is interfering with the following services here in the US.

3927	01.00	Sunday	V2a in the 80 meter amateur band
7555	03.00	Sunday	KJES ceased broadcasts this hour due to V2a
5800	03.00	Monday	V2a near several broadcast stations
4016	02.00	Thursday	M8a on regular scheduled MARS net

Recently, at least six V2a broadcasts have produced a four-digit call up. This is happening too often to be a mistake. This four digit header always appears in the last position. Here's some examples.

13436	01.00	30/9/99	Atencion	09122	15582	1801
12215	02.00	30/9/99	Atencion	01922	15582	1801
7887	02.00	3/10/99	Atencion	51998	85443	5053
7555	03.00	3/10/99	Atencion	51998	85443	5053

(Although widely heard in Europe none of these reported anomalies have ever been noted. We would like further confirmation of John's observations, but so far have not received any).

With regards to 'interfering' - 3927 is in a shared band (not allocated to amateurs in Europe) 7555 is not allocated to broadcasting but to the Fixed Service. KJES has no legal right to be there! 5800 is also fixed service, not broadcasting. 4016 M8a has just as much right to be there as a MARS net - perhaps more so! V2/M8 is well behaved in its use of Fixed band frequencies, unlike such "pirates" as E3, E10 & G4.

PLEASE SEND YOUR LOGS NEWS COMMENTS AND CLIPPINGS TO OUR MAILING ADDRESS. THANK YOU.

✉ LETTERS TO ENIGMA ✉

Welcome to 'your' letters page - thanks to everyone for your contributions. Our first letter is from Dave (Bradford), who is not far from our mailing address. He tells us that he has been a "watcher" of clandestine stations for the past forty years and wonders if anyone remembers the stations who transmitted in RTTY using the old ADFGX and ADFGVX enciphering systems (Playfair; devised by Charles Wheatstone, of the bridge fame). These transmissions were received on a Creed 7/b teleprinter and were transmitted in the familiar five letter groups with a four letter designator with, usually, a Russian voice preamble of five minutes and termination again in Russian. These were at the height of the "Cold War" and the Philby, Mclean, Krogers et al revelations. He also asks if any readers have information about a station which was around circa. 1965-1975 and operated eight H.F. RTTY lines (24 hours/365days a year) run by 'Firestone', transmitting RY's only on all eight channels. Reputedly from Marthar's Vineyard U.S.A. to Sierra Leone; nothing was ever sent except RY's. (Ed. Can supply frequencies, schedules, locations etc.)

'SDK' writes - "I have recently read "STASI the untold story of the East German Secret Police" by John O Koehler (ISBN 0-8133-3409-8) - an excellent book which I would recommend to anyone with an interest in this field. There are brief mentions of numbers stations in a few places. But the beginning of chapter five includes some details about the last transmission of the STASI numbers station". The following is an extract from the book.

The Stasi's espionage war against capitalists enemies abroad was hugely successful and ended only when the diehard communists realized that their dream of clinging to power at home had been shattered. On May 31, 1990, Stasi spies in West Germany sat by their radios, poised to copy the five-digit code groups that for years had been used to relay instructions from their controllers behind the Berlin Wall. On that day, however, the familiar, monotonous female voice said only "Wittenberg" three times. Then there was silence. Wittenberg, the name of the town where Martin Luther broke with Catholicism and started the protestant Reformation, was also the code word ordering the recall of about three hundred Stasi operatives on special deployment - OIBEs, in Stasi jargon - who served as espionage case officers in West Germany. The agents scurried back to East Germany, abandoning their Western collaborators. Six days earlier, the intelligence division of the People's Army had told its spies by radio that the game was over. In contrast to the Stasi announcer, the army men apparently had to boost their courage with schnapps: Giggling and slurring their words, they sang a children's ditty about a duck swimming in a lake, dunking its little head in the water and lifting its little tail. Staging this broadcast may have been hilarious to the alcohol-stimulated singers in East Berlin; not so to the spies who listened. The two broadcasts ended espionage operations that had functioned successfully for nearly four decades. The Hauptverwaltung Aufklärung (HVA, the Stasi foreign intelligence service) and the military intelligence service of the DDR were dead. Eighty percent of all East German espionage operations in West Germany had been run by the HVA. The military played a smaller but no less successful role, with 20 percent.

The two stations referred to in the article were - STASI station - Four Note Rising Scale (G8) and MILITARY INTELLIGENCE station - Gongs/Chimes (G4). Thanks to 'SDK' for the information provided.

Staying in that part of the world, an interesting piece appeared in the British DX Club magazine Communication, concerning an odd station in East German. Kai - (Germany) wrote "Some years ago there were reports of a music service in the Moscow area on 380 kHz, although nothing has been reported in the vicinity recently. A group of Soviet forces in Germany used to operate such a service. If I remember correctly the frequency was 390 kHz. The station was known as "Radio D", broadcasting just music with a Morse "D" in between. The transmitter was situated on the extensive quarters near Jueterborg, some 50 kms south from Berlin. It is said that the purpose of "Radio D" was to feed the speaker installations at barracks. These "Radio D" broadcasts should not be confused with Radio Voiga, the regular Soviet forces radio station, which broadcast from Potsdam using GDR transmitters (started 1945 at Koenigs Wusterhausen, then in the sixties from Burg on 263/261 kHz." Interestingly, G21, the Music & Morse station employed a similar idea. A Morse letter was played over popular musical introductions. More information on this and any other extinct operations are always appreciated.

A letter from John (Caithness) also mentions a German station. "When I was in the Army our target area, so to speak, was East Germany/Russian Military formations. We used to listen to a numbers station referred to as Magdeburg Annie, a German female giving out numbers from, according to DF, Magdeburg. We knew in the Army that the numbers station (Magdeburg Annie) was sending coded groups to the KGB/Stasi agents in West Germany some 35 years ago".

Gert (Zoetermeer, Holland) writes about two books of interest. The first we have mentioned in ENIGMA, 'Jamming' is an excellent book about Russian jamming during the Cold War. Details from < www.is.it/ratekona/jamming/.> Another book which we have not heard about before was also discovered on the Internet: 'Improvised Radio Jamming Techniques' ISBN 0873645200. Does anyone have a copy of this?

Mr 'A' (Stoke-on-Trent) asks if anyone can help him in locating a copy of the book, 'The Hobbyist's Guide to COMINT', by Tom Roach. Please write via our mailing address.

A few quick greetings. Peter (Saffron Walden), Guy (Portsmouth), Richard (Buckinghamshire), Peter (Surrey), David (Aberdeen), Toby & Peter both in (Edinburgh), Alan (Nr.Solihull), Richard (Andover), Geoff (Bridgend), Takashi (Nagasaki), Rob (Eessex), thank you all for your logs and information which is most appreciated. We would also like to pass on our thanks to all the members of WUN & The 'Spooks' Monitoring members for their e-mail contributions.

Some feedback about the Israeli Navy courtesy of 'D' who wrote in response to our questions about Morse station 4XZ (M22). Overview of the Israeli Navy - "The Military Balance" produced by IISS.

The Navy is the smallest and least well funded of Israel's armed forces and has always been considered the "poor relation" of the two branches. The main military threats to Israel have always been seen to originate on land and in the air in recent years the Navy has been neglected although Israel aims to rectify this in coming years, notably by the acquisition of new submarines supplied by Germany. These may later be equipped with cruise missiles, possibly nuclear armed which would provide a second-strike capability in the event of a nuclear attack on Israel's nuclear bases at Tel Nof and Zachariah. The subs will also help enhance Israel's Special Forces capabilities as they are equipped for divers to enter and leave them whilst submerged.

The Navy has some 9,000 staff, compared to 134,000 for the Army and 32,000 for the Air Force. Of these 9,000, over 3,000 are conscripts. Israel's Naval Order of Battle is 3 submarines and 51 Patrol and Coastal Combatants. Most of these vessels are corvettes, inshore patrol craft and small missile boats armed with guns and anti-shiping missiles as Harpoon and Gabriel.

The bases used are Haifa, Ashdod and Eilat but it does not appear that the ships operate from home. The 7 or so vessels in Eilat operate in the Red Sea and the rest operate in coastal waters in the Med, existing mainly to deter seaborne terrorist attacks, illegal arms imports and insertions by saboteurs on the coast of Israel. They also serve to keep an eye on ships entering Israeli ports.

'D' comments - "Perhaps the high volume of CW traffic may be details of shipping lists; but I doubt it. Communications to fast vessels would normally be secure speech or RTTY and not CW on HF. I would suggest that this station is something more than just a Navy station because a fleet of this kind both in its structure, size and function would need all this CW traffic".

According to Issue 14 (May 99) of "Numbers & Oddities" the station 4XZ (M22) sends regular traffic consisting of three distinctive types:

- a) Traffic in offline encryption (5 letter groups)
- b) Traffic in what is assumed to be Hebrew Morse.
- c) Surface analysis/prognosis in WMO FM46-IV coding. (This is NOT 5 figure offline encryption.) WMO FM46-IV International Analysis Code aka IAC Fleet, being abbreviated form of FM45-IV for marine use.

Message for 'D' - Thank you for all information. Please send all future contributions direct to the Chapel Street address. Thanks.

A MESSAGE FROM CHRIS AT HQ: Finally, you will have read of my 'retirement' from ENIGMA. May I pass on my thanks to everyone for their help and support and wish you all the very best for the future. Please keep up the good work and continue to support the Newsletter with your contributions.

THINGS THAT GO BUZZ IN THE NIGHT!

A warm welcome to our 'Buzz' pages - and straight into the news.

S28) THE BUZZER - 4625 khz 24 hours. David (Florida) recently returned from a visit to Moscow. The Buzzer is heard there at very high strength 24 hours with only slight fading. Rimantas (Lithuania) asked a good friend who was attending the International VHF/UHF frequency coordination session in Palanga to enquire with Russian colleagues regarding the station transmitting on 4625 kHz. We are advised that an official source from the Russian telecommunications authority have confirmed, that this frequency is allocated to the Ministry of Defence of the Russian Federation.

The signal heard in Western Europe seems to have developed a 'whistle' caused by a carrier which is slightly offset from 4625kHz, a Link-11 transmitter also occasionally sits slightly LF. On WED 29th September at around 20.40 the 'Buzzer' was absent - it returned with a long tone followed by its normal noise. No message was noted. On MON 18th October the 4625 kHz signal was noted sending a harmonic on 9250 kHz, rather close to 'Lincolnshire Poacher' (E3) on 9251.

S30) THE 'PIP' 3757 kHz 14.00-05.30 & 5448 05.30-14.00. Still busy with occasional voice messages, David - visiting Moscow, reported the 'Pip' was not that strong in Moscow and was generally better in the morning. A message was noted on July 21st when, interestingly, the station was using both frequencies at the same time! Did someone forget to switch 5448 off? The message (with thanks to Rimantas) read "Dia" (For) - six 3-figure groups- "Kak slyshno?" (How do you read me?) - "Priyom" (over); the whole message was repeated in Russian by the live male announcer.

XM) BACKWARD MUSIC STATION - We reported that this signal is now heard less than in previous years. Some frequencies are still around. In Europe try 8460, 10513 kHz evenings; also 5094//6695 are reported strong in Greece; 6422 also occasionally heard with a good signal. Meanwhile, John (USA) reports that 9285 and 11209 kHz are heard in that part of the world.

TELEPRINTER 4710 In the last issue we mentioned the FSK transmission on 4710 kHz which can be heard around the clock, when absent the carrier remains on. This is operated from the USAF/CIA site at Barford St John, Oxfordshire. We can now confirm that this transmission is also carried on 6702 and 9000 kHz in parallel (these were not noted as coming from the above site during our visit). We are still interested in learning more about these transmissions.

FSK BURSTS - Another mystery FSK signal ? We are not sure, but it's certainly been around some years. It displays a peculiar characteristic. Again 24 hours/day, it consists of 7.5 second bursts of multi-channel FSK sent on a number of frequencies. Transmissions follow the clock minute of eight 7.5 second bursts. Those noted so far are given below.

By far the easiest to find in Europe is 5437 kHz, have your receiver set for reception, USB, and leave it tuned for 1 minute - it will appear at 45 seconds before the clock minute. 5437 is also the home of E10 station (ART) - (we are informed that the FSK signal is strong in Greece).

<u>TIME - SECONDS</u>	<u>0</u>	<u>7.5</u>	<u>15</u>	<u>22.5</u>	<u>30</u>	<u>37.5</u>	<u>45</u>	<u>52.5</u>
NETWORK 1	<u>FREQ</u>					6351	5437	3295
NETWORK 2	<u>FREQ</u>	12725		16095	12725		16095	12725

Other parallels may exist to complete the cycles. What is its purpose, and where is it transmitted from?

MORE ODDITIES!

THE SQUEAKY WHEEL - This is a new one to ENIGMA! Where do we find them? David reported this was audible in Moscow on 5461.5 kHz; its reception was variable and was better in the local morning hours, possibly indicating a site to the general west of Moscow. The first report of this signal was from Finland who reported a strong signal. We monitored the signal around 04.00, only fair in the UK - it really does sound like a rusty old wheel been turned slowly - however, it is a very interesting signal. A similar signal to 'The Squeaky Wheel' inhabits 3650 kHz in the European evenings, although a strong adjacent Facsimile signal may cause interference, so you need to wait for it to stop sending. Worth monitoring 3650 for this odd noise.

THE AUDIO BLAST - During monitoring of the frequency (5461.5 usb) around 04.00 another signal was also noted. This sound is also quite unique and sounds like a loud blast of distorted audio which fades into the background, which is sent about every 12 seconds (4 times per minute). Again the signal is not particularly strong in the U.K.. It would be very interesting to know if this signal is strong elsewhere. Comments welcome.

'ZEBEDEE' - Remember the sound Zebedee made on The Magic Roundabout TV programme? Well this is where he is now! The frequencies noted for this, 2951 kHz & 4575 kHz - European evenings/early mornings - occasionally heard. Sends a noise like a bed-spring for hours on end! David (Wales) wrote to say "I was idly tuning through the bands, as one does when one cannot sleep, and I came across a really weird sounding transmission. It was on 2951 kHz. I immediately put the frequency onto SPOOKS mail reflector, and judging by the replies I got, the transmission would seem to have been heard as far afield as USA, France, Sweden, Holland, to name but a few. Apparently, it went on until around 15.00 or so, at S9+ +". David, thank you for the tape.

THE RAPID PIP This one seems much more sensible, for it does send information. It is also quite active, in the European evenings. The transmission consists of a rapid (about 3 per second) 'Pip'. It always appears on two frequencies in parallel, usually good strenght in U.K.. Without warning the 'pip' stops and a short burst of

Morse letters is sent - the usual unintelligible (to us anyway) type. The frequency pairs noted so far are as follows:

8093 // 6844	4816 // 6821
8093 // 5446	5225 // 5739
8093 // 3767	7572 // ?

MW BEACONS? - David (USA) also mentioned that while in Moscow and St.Petersburg he heard local A2 mode beacons in the middle of the medium wave band, using 2-letter callsigns. "I presume these were aeronautical, but does anyone know for certain, and why they would be there instead of on the Longwave beacon band"?

(Ed Note - This is not unusual even in the U.K. for in 1974 NDB's operated on 797kHz, (Cranfield CFD), 633.5 (Lambourne LAM), 669.5 (Pole Hill POL - closed), 543.5 (Lichfield LIC), 534 (Mildenhall MI), 669.5 (Stornway STN). LIC still operates. A MW NDB at Barton closed in 1987. Some of the others may still operate. Temporary NDBs on oil-rigs still also use MW frequencies).

NEAR VERTICAL INCIDENCE SKY-WAVE (NVIS) - Paul (Massachusetts), sent us an interesting paper from Electronics & Communication Engineering Journal, April 99. The paper discusses NVIS a system used as a low-cost alternative to satellite links. The propagation mode gives omnidirectional coverage from a central site; 300 km ranges are possible and the technique has an inherent ability to fill in 'blind spots' lying in hilly ground. Normal voice and data services may be readily established, the paper explains. According to the details given, information is gathered from a oblique sounder operating on 6793 kHz. Paul explains that the data may originate from The University of Ulster (?) and a data mode can be heard in the USA after about 00.30 UTC. Comments/information welcome.

BLANK CARRIERS - Quite why these particular unmodulated carriers have been selected for particular attention is a mystery, given all the other strange signals that can be heard on HF! However, they have surfaced on the Internet (via Chris - Cheshire). The frequencies given are 5280, 10172, 12687, 14390 and 16933. We do not know why these have been associated with each other. Some speculation suggests they may be jammers. Directional bearings indicate a path towards Portugal or Spain Has anyone a clue as to what these are about?

WIDE BAND PSK SIGNALS - Shortwave Magazine the British DX Club and WUN have all recently carried questions and comments about these signals. They operate in the Fixed Service Bands and were covered in ENIGMA (January 1998). Some of these stations do transmit from Britain and are operated by the Military.

NEW YEARS DAY! - An unusual transmission was noted on January 1st on 14525 kHz (USB) at 10.39 playing an extract (loop) from the Carpenter song 'We Have Only Just Begun' on a Musical Box? Not heard since. Any ideas?

Finally, you can check out 'Buzz' stations on the Internet courtesy of Brian (Sussex). <<http://dSPACE.dial.pipex.com/brogers>>

SITE NEWS

As always we would like information on transmitting and receiving sites - active or not. So please keep it coming in, including news clips and site visits/observations. Remember we need your help!

UK

Capenhurst - details of this M15 receive site in News Round-Up this issue.

Blakehill - details of this former GCHQ site in News Round-Up this issue.

Poundon SIS Receiving Station - In our last issue we mentioned that this site had closed and reportedly moved to Peel Circus (see later). Further fragments of the story are still coming in. It now seems possible that Poundon moved because it was at risk of 'sticking out like a sore thumb'. The changes to the Diplomatic Wireless Service (DWS) made Poundon rather vulnerable. The original plan was that Hanslope Park would be the main Communications Centre while the scattered London Offices closed, but due to a Ministerial Decision, Hanslope Park as a receiving station closed. The transmit site at Creslow closed soon after (following closure the station was put up for sale but no takers came forward and after SIS looked at the bill to run Creslow they declined to take it over) and the SIS station at Poundon closed some 18 months later. Both Poundon and Creslow had only just been extensively rebuilt at vast expense.

Shenley Church End & Stoke Hammond - The station at Shenley was run by GCHQ and was a DF training station. You could tell by the four Adcock Aerials and the hut in the middle of a field. That station was flattened some 15-20 years ago and a housing estate now exists in its place. I assume Stoke Hammond likewise, I have not been that way for some time reports John (Caitness). (Ed - a CDAA was reported at S C End in the 1980s. Stoke Hammond has been dismantled in early 70s - a much larger site).

Peel Circus - We had several letters asking for more details about this site, 'J' (Cheltenham) wrote - "Your comment about Poundon moving to Peel Circus is very interesting. A few years ago I had the pleasure of servicing the lifts on the nearby Corsham site and two of the lifts went down underground were called 'The Hudswell Lifts'. (Ed - These led to Hudswell Quarry - the other 2 major areas of the complex being Spring Quarry and Tunnel Quarry - beneath the Box railway tunnel. RAF Rudloe Manor used a small 'cave' linked to the Corsham Complex and beneath the Fiveways Tower - it is the HQ of the Defence Comms. Network). These lifts went down approximately 100ft to a large network of tunnels which were used for storage by the MOD and also to provide protection for VIP's in the event of Nuclear War. If you drive along the main road through the site, there is a large communications tower with lots of interesting looking antenna on! As far as I know this is called Five Ways, but I could be wrong." (Correct -Ed).

Another reader wrote "Where is this site? I thought I knew my county quite well!"

Some feedback to our sites article last issue courtesy of 'R'.

Pirbright - After many years abandoned and dismantled (since early 70s) this station located at Cobbett Hill, Pirbright has been reactivated and is operated by the Defence Evaluation and Research Agency (DERA) as a transmitter site. The receive site is located inside the northern boundary of Farnborough airfield. (It recently moved from Cove which is now a housing estate). Both stations have a variety of satellite dishes. The station has used the call 'MPD' and 'Cove Radio'. The only traffic heard recently is the Met research flight C-130 Hercules (callsign 'Metman') and the Boscombe Down based Comet-4 doing mode 'S' trials over the North Atlantic. On a visit there in November 1988, tags marking the aerials with their frequencies were present. (For the riggers benefit).

They were 2835, 3860, 4730, 5685, 8975, 11178, 13234, 15036, 18025 and 23265. Of these the following were noted in use; 8975/Jan 90, 11178/Dec 94, 15036/ Nov 93, 18025/Apr 89, 23265/Apr 91. Also noted 6755/Feb 92, 6725/Jun 90.

RAF Balado Bridge is the receive site for RAF Milltown. (Kinloss is an active airfield).

Lanivet, Bodmin -Another regular contributor wrote in response to several questions in the last issue. First, the HF site Lanivet, near Bodmin. We are informed that this is not a Merlin Comms site. According to Dave (Reading) he replies: "If Lanivet is the name of the HF station on the southern side of the main A30 road then it certainly still had a BT sign on the fence when I drove past it in early July - along with an advert for Goonhilly. It said something like "BT-radio station -Bodmin". Incidentally, I noticed that for several hundred yards either side of those masts, reception on MW and LW on my car radio virtually disappeared. I came to the conclusion that there must be massive signals coming out of those masts which was swamping out the AM circuits in the radio and wonder if anyone might know what the site is being used for - and what frequencies it operates on. It did occur to me that a BT radio station pumping out what were clearly very high power signals on HF was a bit mysterious in these days of global satellite communications!" Staying on BT sites for a moment, 'J' (Cheltenham) mentioned that he was travelling back from Yeovilton, "I came across a large antenna site. Situated just outside the town of Somerton, this site is big. A minor road bisects the site and the antennas look a lot like the ones at Wooferton. It looks like a HF station, but unlike Wooferton and Rampisham there are no signs saying who runs it. The site is very overgrown but the locks are all very shiny and new, and I got the impression that it was/is run by BT. There is also a large mast with a single microwave dish on it. (Ed note - BT still operate large HF transmitters at Rugby, Criggon, Ongar, Leafield, Dorchester and Lanivet. Receivers are at Bearley, Somerton, Bridgewater).

Skelton, Cumbria - Moving North we have also heard about the possible plans for a 1000ft mast at the Merlin Comms Site A, Skelton, Cumbria. According to information received some mention of this was made in the local Penrith Newspaper. What would they need such a large mast for at this site? Height suggests only LF (Location is too low lying for TV).

UNITED STATES

Saddlebunch Keys/Cudjoe Key - An interesting piece appeared in the British DX Club journal "Communication". Could these sites be of interest to ENIGMA monitors? AFRTS: Terry Kruger writes: I have returned from a vacation to the Florida Keys. One intended mission on the drive to Key West was to confirm once and for all my hypothesis that the AFRTS sideband feeders on 4278.5 & 12689.5 were in fact via the CIA/US Navy b/c complex on Saddlebunch Keys. While verifications have been flowing in from a US Navy public relations contact, claiming the transmitter site is at Boca Chica Naval Air Station. I am unaware of any HF facility there. I visited Cudjoe Key, home of the Cudjoe Key Air Force Site, where seemingly the sole remaining tethered TV Marti blimp (balloon) is based. The 4278.5 and 12689.5 signals were good with the antenna almost completely retracted and the radio on the car seat. Signal levels greatly increased and peaked within the next approximately five miles, at Saddlebunch Keys. At the children's park across from the entrance to the US Navy complex, I compared the two frequencies with the antenna retracted and slightly detuned to other confirmed RTTY signals from the facilities (NAR), namely 7784, 9030, 11025 and 12915 kHz. (No other channels were located). Signal levels were identical, that is, virtually swamping the front end of the radio. Driving south to Boca Chica (about five miles, again), signals dropped to about the same levels as at Cudjoe Key. In Key West, signals were considerably weaker with the retracted antenna. The 6485.5 kHz frequency was inaudible anywhere with the retracted antenna, so it indeed would appear to be from Puerto Rico, or at least definitely not Florida. (Dan Ferguson-Virginia via Numero Uno).

Acknowledgements - Thanks to several readers who contributed to this section but did not wish to be mentioned by name.

Please send us your site news.

V23 - La Femme francaise

Until last year we have only known of one Numbers station which used the French language, V12 (Family IV). Now we can add another one to our list, V23, which proved to be a new member of Family Ia.

It appeared from nowhere, twice daily at 0900 & 1900 over a seven day period in August, and has not been heard of since. Its format is identical to that of S6, but its habits are quite different; its scheduling having more in common with E17z. As usual with Russian-run stations, the signal was clear and strong at all times. All messages were different (around 90 groups with no nulls or repeat transmissions) and the ID for both schedules was the same throughout: 362 (used as a collective SN). Note that the DKs progressively increase from 490 to 616; something which has never happened before.

DAY	DATE	0900 FREQ	DK/GC	1900 FREQ	DK/GC
Fri	13.8	15840	missed	11060	490/missed
Sat	14.8	10635	499/91	8124	508/82
Sun	15.8	(No transmissions)			
Mon	16.8	15840	525/90	11060	544/95
Tue	17.8	10635	552/81	8124	559/96
Wed	18.8	15840	571/93	11060	580/87
Thu	19.8	10635	590/80	8140*	599/96
Fri	20.8	15840	607/90	11060	616/91

Note the regular alternation of frequencies. * Chosen to avoid a station already on 8124 - a typical family habit.

Even more interesting was the discovery that SN 362 was also being used by at least three other members of this family during the same period. The six logs obtained are those of Spanish, German and English stations, but there could well have been more of these, and possibly M14 & S6 also. It is likely that all of these had at least one daily (except Sunday?) slot, possibly two, as with V23. Like V23, G6/A alternates its frequency from day to to day, which suggests that V6A & E6C may have done the same, but unlike V23, all these sent dual messages. They are not only linked by SN but also by DK:-

Mon	16.8	0700	16342	V6A	534/84	535/85
Tue	17.8	1500	9325	G6A	558/82	559/88
Wed	18.8	1500	14975	G6A	576/95	577/92
Thu	19.8	1100	10360	E6C	591/93	592/98
Thu	19.8	1500	9325	G6A	595/95	596/??
Fri	20.8	1500	14975	G6	612/83	(only one message reported)

As V23 sent 14 transmissions over the period, if we assume that the others did the same, this would mean a total of $14 \times 4 = 56$ transmissions or around 112 messages, using around 135 consecutive DKs. E6C itself is unusual for the first message uses a new male voice with an American accent, whereas the second message uses a voice with a Russian accent - not the usual E6 voice. We have no idea why they go to such trouble providing these extra voices; the need is hardly obvious.

M14As & S6Es (dual message variants) have been noted for years - M14As are very active - but dual message English, German & Spanish transmissions are entirely new, Here all four transmissions sent dual messages (unlike V23), and their two DKs always increase by one, another unusual feature.

When all the DKs are laid out consecutively (as they actually occurred in time) in tabular form we have the following:-

ACTUAL	INCR.	E/G/V	INTERVALS	DEV.
			of 9	
F 2481				
F 490			490	=
Sa 499	9		499	=
Sa 508	9		508	=
(SUNDAY)			517	
M 525	17			-1
			526	
M	(9)	534}V		(+8)
M	(1)	535}	535	(=)
M 544	9		544	=
Tu 552	8			-1
			553	
Tu	(6)	558}G		(+5)
Tu	(1)	559}		
Tu 559	0			-3
			562	
W 571	13		571	=
W	(5)	576}G		(+5)
W	(1)	577}		
W 580	3		580	=
			589	
Th 590	10			+1
Th	(1)	591}E		(+2)
	(1)	592}		
	(3)	595}G		(+6)
	(1)	596}		
			598	
Th 599	7			+1
F 607	8		607	=
	(5)	612}G		(+5)
F 616	9			-1
			617	

Brackets relate to non-V23 transmissions.

INCR = increments between each logged DK and the next.

All V23 DKs occur approximately at intervals of nine. The projected intervals of 9 are listed and compared with the actual DK intervals in the DEVIATION column. Out of a total of 13, seven are equal, one is three too few, two are one too many, and three are one too few. It's clear that, for some incomprehensible reason, nine is the idealised interval between V23 DKs. Many DKs within this consecutive range are missing, and all could have been linked to messages not logged. But also, some only or perhaps none at all may have been. Note that DK 559 was shared by V23 and G6A, yet different messages were sent - maybe this was a logging error?

Here is a complete list of DKs in groups of nine. Where a DK is omitted, a transmission was logged, and the language (given as F, S, G or E) is substituted. All DKs given were missing from logged transmissions. As there are so many, it's unlikely that they were all associated with missed messages.

F?	482	483	484	485	486	487	488	489
F	491	492	493	494	495	496	497	498
F	500	501	502	503	504	505	506	507
F	509	510	511	512	513	514	515	516
517	518	519	520	521	522	523	524	F
526	527	528	529	530	531	532	533	S
S	536	537	538	539	540	541	542	543
F	545	546	547	548	549	550	551	F

553 | 554 555 556 557 G G+F 560 561
 562 | 563 564 565 566 567 568 569 570
 F | 572 573 574 575 G G 578 579
 F | 581 582 583 584 585 586 587 588
 589 | F E E 593 594 G G 597
 598 | F 600 601 602 603 604 605 606
 F | 608 609 610 G 613 614 615 F

During this period M14A appeared as usual at 1900 on Wed 18.8. This long-established dual message schedule (one of 3 each week) uses the 362 SN also, yet it has no identifiable links with this V23 operation. On that day, its first message was missed due to bad interference, but the second message (984/70) clearly doesn't fit into the V23 DK sequence. There is such a high rate of SN use in this family that the two 362s would appear to be just a coincidence.

Whatever this operation was, it required up to four messages to be sent each day in four languages. It was so important that French, a language not formerly used by this family, was believed to be necessary, and possibly the female voice sampled specifically for this. There must have been at least four recipients, native speakers of these languages, and untrained in Morse. The DKs could well relate to page/column numbers of some kind of printed matter held in common by all recipients, but are unlikely to apply to One-Time Pads.

NETWORK SYNARCHIQUE by Captain Way II

A Hermetic political & philosophical network involved in various covert projects: politically pro-United Europe & Eurasian. Conducts discreet research over a wide range of subject matter. Has links with several intelligence agencies, the Vatican, the Sovereign Military Order of the Knights of Malta etc. Wishes to expand its UK influence. People of like mind, and with an interest in putting their knowledge of intelligence matters to work, please contact ENIGMA (addressed no longer to "ENIGMA NS") and we will forward your letters.

J - 111 210/107, 419/507, 831/708, 605/310, 330/410, 017/211, 418/912 567

DZ - 000

328 - 555 (Corse)

437 - 64992 09023 56341 85693 76933
 22126 87094 60557 98672 04301
 35811 96565 90324 73482 67003
 27188 64372 69509 43716 63666
 52375 95301 61773 82983 02000
 38502 23411 65739 70704 37343
 66111 13266 90700 16940 =34

633 - 221/15 1Feb-31Jul

718 - 2/639 3/472 4/781 5/056 6/301 7/494
 "TYME TRYETH TROTH"

849 - V, +1, KP as given in last reply, -1 (=143)

Central Intelligence Agency

MILITARY PERSONNEL



**CIA OPENINGS
IN THE
SIGINT FIELD**

The Central Intelligence Agency is now offering men and women with SIGINT collection/processing experience a career opportunity of exceptional merit. If you are a US citizen, in good health, like to travel, and are proficient in Morse/non Morse, voice collection disciplines, signal analysis, or equipment repair ... we urge you to apply.

NEWS ROUND-UP: REPORTS OF INTEREST

BRITAIN - SECRET TOWER MONITORED CALLS - The Ministry of Defence's Electronic Test facility (ETF), a rather mysterious 150ft-high tower, stands isolated in a British Nuclear Fuels Limited site at Capenhurst, Cheshire. Locals knew that the tower housed a dark secret but did not know what it was. That secret is now out. The tower was craftily erected between two BT microwave radio towers carrying telephone traffic. The ETF was the ideal place to discreetly intercept the international telephone calls of the Irish government, businessmen and those suspected of involvement with IRA terrorism. Channel 4 news (TV) filmed extensive BT (British Telecommunications) equipment inside the building, including optical fibre cables linking the tower to the MoD's communication system.

The high-tech white ETF tower included eight floors of advanced electronic equipment and three floors of aerial galleries. They were used to extract and sort the thousands of communications passing every hour.

Fax messages, electronic mails, telexes and data communications were automatically sorted by computers scanning their contents for key words and subjects of interest. Telephone calls could be targeted according to the numbers dialled or by identifying the voice of the speaker. At the time the tower first came into operation the IRA campaigns were raging. Relations between the British and Irish governments were not always smooth with the British suspecting their Irish counterparts of being sympathetic to the IRA. Since the early Nineties, the British electronic spy agency GCHQ and its American counterpart, NSA, have developed sophisticated libraries of voice profiles to use in scanning international telephone messages. The ETF tower was operated by personnel from an RAF unit based at Malvern, Worcestershire. The Special Signals section of the RAF's Radio Introduction Unit installs and runs projects for GCHQ. According to local residents, the site was manned 24 hours a day by a team of two or three people until the start of 1998. Besides the Capenhurst tower, communications to and from the Irish republic were also intercepted at a similar but smaller GCHQ station in County Armagh that intercepts microwave radio and other links between Dublin and Belfast. A third GCHQ/NSA station at Bude, Cornwall, intercepts satellite communications, including those to and from Ireland. From 1990 until 1998 the Capenhurst ETF tower intercepted the international communications of the Irish Republic crossing from Dublin to Anglesey on a newly installed submarine optical fibre cable called UK-Ireland 1. From Anglesey, the signals were carried across Britain on BT's network of microwave radio relay towers. The key link, from Holyhead, in Anglesey, to Sutton Common, nr Macclesfield, passes directly over the Wirral peninsula, to the south of Birkenhead. The ETF tower was built to pop up into this beam. When the new cable was planned in the mid-Eighties, intelligence specialists at the MoD and GCHQ Cheltenham, the electronic spying headquarters, realised that the radio beam passed directly over the nuclear processing plant at Capenhurst. During 1988, a temporary interception system was built on the roof of the BNFL factory. When tests of the Irish interception system proved successful, intelligence chiefs decided to go ahead with a full scale system.

Within the MoD, the project was classified "Top Secret Umbra" The codeword "Umbra" is used to designate sensitive signals intelligence operations. Not even BNFL, on whose land the ETF tower was built, was let in on the secret. The MoD held a meeting with residents early in 1989 and urged them not to talk about the site. In return they were given free fencing and double glazing.

The architects were told that the tower had to contain three floors of aerial galleries, each with four special "dielectric" windows. These are opaque to visible light but allow radio beams to enter. With the tower built in this way, no one could see what aeriels were inside or in which direction they were pointing. But the architects' plans, lodged at the local authority offices, revealed the true purpose of the tower. The plans revealed that the radio-transparent windows had to be aligned on an extremely precise compass bearing of 201.12 degrees to magnetic north. Aeriels pointing through the windows would then aim precisely at the BT towers at Gwaenysgor, Clwyd, and Pale Heights, near Chester, which are towers that carry Ireland's international communications links through Britain. During the ETF's installation in 1989 and 1990, defence officials were keen to conceal what was going into the tower. To disguise it, they had contractors' vans repainted in the liveries of BT and other public utilities. BT refused to say whether this had been done with its knowledge and with its consent. Since Irish telecommunications moved on to a different system over a year ago, the Capenhurst tower has been made redundant. (Ed- GCHQ are now using

different methods at intercepting these communications - at several points). The MoD is trying to sell it off. It would not make a very comfortable home, and it is hard to see what legitimate business might now be interested in it. The Defence Estate Organisation said that it had extended the time for offers to be made, and it would accept bids for the tower. The Home Office said: "In accordance with standard practice, the Government does not comment on alleged interception activity." BT said it does not wish to comment. (Ed. It wouldn't be allowed to under the terms of its contract agreement anyway). The former Taoiseach (Prime Minister) Albert Reynolds led Irish politicians in demanding an explanation from Britain.

BRITAIN - FORMER GCHQ SITE TO BE WILDFLOWER HAVEN - A chance to create the largest ancient wildflower meadow in Britain has arisen at a site being sold by the Ministry of Defence. The 560 acre former Blakehill airfield, near Cricklade, Wiltshire, was a base for Dakotas and gliders in D-Day and Arnhem and has since been used by GCHQ as a communications centre. All but one of the aeriels have been removed from the site, but the masts protected the grassland, its wildflowers, butterflies and birds from destruction. A circle of pristine rich grassland exists where each mast stood. (Ed. CSOS Blakehill was an outstation of GCHQ used for experimental HF work, and around 10 years ago was earmarked for the receiving end of an OTHR run by USAF, with transmitter at St. David's.)

U.S.A./CUBA/CHINA - ELECTRONIC WAR AGAINST YANKEE IMPERIALISM - If the idea of a Russian SIGINT Station in Cuba was not too close to comfort for the USA, now China is getting in on the act. According to reports the Chinese have installed two Lourdes-like eavesdropping monitoring facility in Cuba. The bases are disguised under the pretext of a joint Cuba-China communications venture. The principal listening facilities are northeast of Santiago, in the Bejucal zone of La Habana province. The Santiago site is dedicated to monitoring N American military satellite communications, while the La Habana site primarily monitors US telephone communications. "For China the use of Cuba as a base of electronic eavesdropping is of tremendous importance because it signifies for them a strategic placement in the rearguard of the United States", commented an ex-official of US intelligence.

China have also started sending China Radio International broadcasts beamed to the USA from a site near Bejucal, southeast of Havana. Strong interference and false air traffic control transmissions have also been DF'ed by the FCC to Pinar del Rio, Cuba. "This is a delicate issue that is treated practically in a secret atmosphere because of its political implications", commented a source. The Chinese bases are an addition to the electronic espionage station in Lourdes, province of Havana, that Russia has continued to operate since the disappearance of the Soviet Union and for which Cuba receives \$200 million annually.

Fidel Castro's relations with China have a volatile history. When Maoist China and the USSR parted company in the 1960s, Castro chose to stick with the Russians, who seemed to offer better support and a better payoff for his efforts to spread revolution throughout Latin America. This soured Cuba's relations with China. At the Summit Conference of the Non-Aligned Movement in Havana in 1979, Castro attacked the Chinese and the U.S. as two "archenemies" of the developing world and ridiculed Deng Xiaoping as a "numbskull" and a "puppet". Despite this baggage, relations improved somewhat when Sino-Soviet relations warmed under Mr Gorbachev. The collapse of the USSR and Castro's desperate need for economic and military aid allowed China to step in the political vacuum left by the Russians.

China has executed an army colonel and a retired general for selling military secrets to Taiwan, according to a Taiwanese newspaper report. The spying allegations and executions have not been reported by the strictly-controlled Chinese media. Beijing still regards Taiwan as no more than a rebel province, which must be reunited with the mainland.

USA - CONGRESS - CONCERNS OVER "ECHELON" - Following recent revelations in Australia, Canada and Europe on an US-UK international signals intelligence network known as "ECHELON," Peter Goss of the Association of Former Intelligence Officers (AFIO) has requested access to NSA files concerning the legality of the surveillance system. Goss and Bob Barr succeeded in attaching a requirement to the Intelligence Authorization Act that would require NSA, the CIA and the Justice

Dept to prepare a report on ECHELON for the congress within 60 days of its enactment. The report would describe the legal standards employed by elements of the Intelligence Community in conducting signals intelligence activities, including electronic surveillance. This would include systems like ECHELON that eavesdrop on international telecommunications. As Barr explained, Congress is concerned about the privacy rights for American citizens and whether or not constitutional safeguards are being circumvented by the manner in which the intelligence agencies are intercepting and/or receiving international communications back from foreign nations that would otherwise be prohibited by the prohibitions and the limitations on the collection of domestic intelligence.

USA - US WARNS RUSSIA OVER SPYING - Russian spying in America has reached Cold War levels and the US Ambassador in Moscow, James Collins, has officially warned the Kremlin to desist. The Washington Times said Mr Collins told Vladimir Putin, former head of the KGB that Russia must reduce the number of intelligence officers in America or face a cut in its diplomatic representation, following three spying incidents in eight months.

RUSSIA - VLADIMIR PUTIN - Confirmed now as Russia's fifth Prime Minister (and perhaps soon to be voted in as President) in 17 months need not be a cause for suspicion or alarm among Western governments. While there is good reason to suggest he will survive in Moscow's present political climate, his 15 years as a spy and 12 months as director of the Federal Security Service provide an indication of the type of man with whom the West is going to have to do business.

FRANCE - DGSE COUNTERS ECHELON SYSTEM - The French magazine Le Point reports that France systematically listens in on the telephone conversations and cable traffic of many businesses based in the United States and other nations. The article also reports the French Government uses a network of listening stations to eavesdrop and pass on commercial secrets to French businesses competing in the global economy. The article goes on to state that the French secret service, DGSE, has established listening stations in the Dordogne (Southern France) and also in its overseas territories, including French Guiana and New Caledonia. The article is attributed to an unnamed "senior official within this branch of the French secret service". The report also states that the Germans bought into the French Helios 1A spy satellite system and are being given access to political and economic secrets as part of a Franco-German agreement to compete with a commercial information agreement between the United States and Britain.

USA - CIA ADMIT THEY PICKED WRONG TARGET - The CIA picked just one target during the 11-week NATO bombing campaign against Yugoslavia. It turned out to be the Chinese Embassy in Belgrade rather than the military and weapons procurement headquarters identified by the agency planners. "It was the only target we nominated", George Tenet, the CIA Director, said at a hearing into the bombing which has strained US-China relations. Testifying before a House committee hearing, the CIA chief said some of his agents knew the correct location of the embassy but were not involved in the target planning. The CIA has said that outdated maps led to the bombing of the Chinese Embassy, but the deep embarrassment of the intelligence agency has now been compounded by claims that the street address of the intended target was found on the Internet and co-ordinates for the bombing were then roughly estimated based on the numbering of parallel street. An unidentified analyst, who was familiar with central Belgrade, was quoted as telling his superiors in the intelligence agency: "I'm not sure that's the right building". The warning went unheeded by senior officials at the CIA and US military commanders in Europe. (Ed. another report claims that actually they selected the right target, and was based on intelligence received).

The United States is reported to have begun a top-secret (!) plan to topple Slobodan Milosevic by using cyber-warfare to suck money out of the President's overseas bank accounts. They are also funding money for the opposition and the broadcasting of western programmes into Serbia. The US is devoting increasingly large amounts of money to information warfare to allow it to tamper with an opponent's technology. The Information Operations technology Center (IOTC) is housed at the NSA, and was activated last year, according to William Arkin, a US expert on cyberwar.

USA/GUYANA - LISTENING STATION DEAL - Agreement between Guyana and the US on the

implementation of a surveillance treaty is near, reports Stabroek News. The post will be located at the Cheddi Jagan International Airport, Timheri. The personnel (US armed forces) to be attached to the listening post are to "interpret data and facilitate communications".

Ed Note: Our contributor informs us of the following: Given the recent rebuild of the Guyanese Telecomms system by an American Supplier, the word 'Echelon' will become more than a word as far as Guyana is concerned. In addition to the intallation at Timheri Airport the telephone exchange and microwave towers are also located there, and the transatlantic tropo system is located on the sea wall not that far from the American Embassy. Near to Timheri Airport Compound is the Guyana Defence Forces (GDF) Barracks. There is also a Sterba Curtain Array that is waiting to be reconnected and a few 8R1 covert antennae lying around.

POLAND - NATO FEARS RUSSIAN SPY RING - Polish counter-intelligence has arrested three army officers on charges of spying for Russia, as evidence grows that Moscow has established networks of agents on NATO's newly-created eastern front. According to government spokesmen, the officers worked for the Soviet Union until its collapse after the 1991 coup, and then, without pause, for Boris Yeltsin's new Russian state. All three were commissioned during the communist era and were said to be motivated by pro-Russian sentiment. They are untypical. Most Poles remain anti-Russian, pro-Western sentiment is strong and intelligence ties are close. Western intelligence agencies have been monitoring the revival of Russian interest in central Europe for some time, but countering the Russian intelligence threat among NATO's new members is extremely difficult. Predictably, Moscow's men are able to recruit among former friends and colleagues in the secret police and armed forces. Russia also has a vast store of intelligence material gathered by communism's giant snooping apparatus during the Cold War. The information is held in a top-secret archive, the so-called Blackmailer's Treasurehouse. It holds sensitive details on the private lives of tens of thousands of citizens in NATO's new members, that leaves the central Europeans at a massive disadvantage, for they cannot judge who might be vulnerable.

USA - ANNUAL U.S. INTELLIGENCE REPORT RELEASED - A newly released report says U.S. intelligence agencies must increase cooperation, as well as develop new techniques and technology, to guard against threats from hostile countries and groups. The report indicates that two categories of threats will occupy the U.S. intelligence community's attention "for the foreseeable future", it states that these threats come from the United States' strategic rivals, China and Russia, "as well as from regional worries such as North Korea, Iran, and Iraq; and the transnational threats - organised crime, narcotics trafficking, proliferation (of weapons of mass destruction), information warfare and terrorism." The report pointed out the need for the many elements of the notoriously fragmented and parochial intelligence community to work more closely.

Meanwhile the Federal Bureau of Investigation (FBI) is proposing to create a division devoted solely to hunting spies, part of a government-wide review of counterintelligence. American intelligence agencies have increasingly focused on threats of terrorism, causing counterintelligence efforts to dwindle, reacting to criticism of its handling of suspected Chinese espionage at nuclear weapons labs, the government is changing procedures, including adding special squads of FBI agents at the labs.

SERBIA - SERB COMPUTER VIRUSES INFECTED WEST - Pro-Serbian hackers attacked more than 170 organisations worldwide, including some in Britain and the U.S. in a cyber war directed at shutting down key computer systems in NATO countries during the Kosovan conflict. The Black Hand, a notorious Serbian paramilitary group, and its sympathisers in Russia, Latvia, Lithuania and eastern Europe, targeted banks, internet service providers and media organisations in revenge for NATO bombing campaigns. When the telecom system in Serbia was destroyed the hackers switched to other sympathetic countries to continue their campaign. The research, compiled by Mi2g, a software company that specialises in security surveillance technology, has been passed to the Cabinet Office, which is monitoring the growth of cyber crime. The e-mails carried hidden viruses capable of denying access to a system for up to four hours or shutting down services for up to three days. More lethal e-mails carried a virus customised to destroy databases and files. DK Matai, managing director of Mi2g, said: "The internet attacks from pro-Serbian elements highlights, for the first time, political activism as a force for cyber terrorism. You can have a small bunch of

people in a relatively feeble country which have been attacked by the mightiest forces in the world. And they have responded effectively via the internet, which allows them to exercise muscle without having the firepower."

BRITAIN - THE GOLDEN AGE OF WIRETAPPING - The old chesnut of 'crime' is again wheeled out as a catch all excuse for reading other peoples e-mails. A specialist code-cracking unit is being set up with funding of between £15-20 million, it will draw staff from GCHQ - but will headhunt top code designers from the private sector. 'You could compare it to cracking the Enigma code during World War II, said one senior government source. 'We need an Alan Turing for the Internet age'. The government will be at pains to allay fears of a Big Brother state intercepting personal e-mails. 'The idea that we have any interest in the communications of anyone other than serious criminals, or indeed the resources, is laughable, said the National Criminal Intelligence Service (NCIS) source. So now we all know and can feel safe in the knowledge that our e-mails are private! But, is 'Big Brother' lurking in every computer or did a software designer simply use an unfortunate acronym? Following claims that America's NSA had inserted a secret key into all post-1995 versions of Microsoft's Windows operating system so that it could read private e-mails and documents. The claim, fiercely denied by Microsoft, follows the discovery by Andrew Fernandes, Chief Scientist at the Cryptonym Corporation in Ontario, of an element in the Windows operating system labelled 'NSA key'. cryptographers say the key is evidence of a long suspected secret deal between Microsoft and the spy agency. Embedded in every copy of Windows 95,98, NT4 and 2000, the key could enable the NSA to read confidential documents, they say. But Microsoft claims the choice of initials reflects the fact the NSA is responsible for reviewing data-scrambling software and hardware to ensure compliance with US export regulations. However, many experts say the NSA has a record of rigging export software. Companies such as Lotus, Netscape and Microsoft agree to alter scrambling systems in Internet software to reduce security levels for users outside the US under pressure from the NSA.

USA - ZAP! ... AND YOUR PC'S DEAD - With \$500 and trip to the hardware store, saboteurs can build a device capable of disrupting computers, vehicles, medical equipment and nearly anything else dependant on electronics, according to an ex Navy engineer, David Schriener of California, who demonstrated a homebrew computer death-ray at the InfowarCon '99 Conference in Washington.

SWITZERLAND WHO CAN YOU TRUST? - After the chief of military intelligence, Colonel Peter Regli, was suspended in connection with a fraud scandal, the Swiss might be forgiven for wondering if the greatest threat to national security is in fact their own intelligence service. Mr Regli was removed after a former accountant in his department, Dino Bellasi, told investigators examining charges of fraud that his bosses had ordered him to buy a stock of 200 small arms, including sophisticated sniper's rifles, for a secret intelligence unit not under government control. Mr Regli and the army chiefs of staff immediately rejected his allegations. The affair began with an investigation into embezzlement. Mr Bellasi was arrested and charged with fraud and forgery, after his successor at military intelligence alleged that he had stolen \$6m by organising fake meetings and seminars for five years. According to the defence ministry, Mr Bellasi was able to falsify bills, ensure that all the supporting forms had the signatures of intelligence chiefs, and pick up the cash directly from the Swiss central bank. He subsequently jetted off on exotic holidays in private aircraft, enjoying the ostentatious trappings of a life of luxury. It now turns out, however, that the money was put to other uses, Mr Bellasi was charged with money-laundering. Then a cache of 200 weapons that he had collected was uncovered in a warehouse near Bern, the capital. Mr Regli denied that these weapons had been bought for the use of a "secret army". In that case, on whose behalf was Mr Bellasi amassing the weapons? The Swiss defence minister, Adolf Ogi, talked obliquely of "arms trading" and "organised crime". Yet Mr Bellasi's account of covert operations is not beyond the bounds of credibility. In 1990 Switzerland, along with several other European countries, discovered that it was embroiled in "Operation Gladio": during the cold war, like-minded western defence chiefs banded together to organise undercover units, with access to hidden stocks of weapons, that would lie in wait to fight communism. The Swiss units, known as P-26 and P-27, were dismantled shortly before Mr Regli became spymaster. Even sceptics of the story about a covert army, such as vice resident of the Swiss parliament's supervisory commission, Peter Tschopp, are convinced that senior officials are trying to cover up something more serious.

BELGIUM - KGB TRANSMITTERS FOUND IN BRUSSELS - Belgian authorities, tipped off by the British Secret Service (SIS/MI6), have discovered three caches with KGB radio transmitter/receiver equipment buried in the woods outside the capital, police report. It was unclear when the equipment had been dug in, but it was most likely during the height of the Cold War. The Soviet spy agency's equipment was found three to six feet underground, said Jos Colpin, the spokesman for the Brussels prosecutor's office. "It was only radio equipment and there were no explosives," he said. One cache was discovered close to Leuven, some 15 miles east of Brussels, another just north and third in the woods of Halle, some 12 miles south of the capital.

BRITAIN - PHONE TAPS RISE - (Information for public consumption) the latest published figures indicate that telephone tapping and mail interceptions rose by nearly a fifth to record levels. The number of telephone taps authorised by ministers in 1998 was 1,913, compared with 1,647 in 1997; mail interceptions were 118 compared with 65 in 1997. In 1998 the Government authorised a total of 519 phone taps and mail interceptions compared with 1,712 in 1997 and 2,031 in 1996.

BRITAIN - MI6 BOSS FLEXES HIS BIRO I - The new head of MI6, Richard Dearlove, has put the screws on his old school, Monkton Combe, for publishing a revealing dossier about his early years. Mr Dearlove, 55, who became top spook in July, is showing "control freak" tendencies. When he got wind of the fact that the Old Monktonian Gazette was running a profile detailing his academic and sporting prowess, as well as gossip gleaned from his contemporaries, Dearlove went on red alert. He carefully vetted the copy beforehand, and has since asked the school to keep quiet. "He asked us not to make any comment. 'Our hands are tied I'm afraid,'" a spokesman for the school said. Heaven knows what he was worried about. The only thing able to be unearthed is that his nickname at the select £10,000 a-year school was "Strangelove", a reference, presumably to the classic Stanley Kubrick cold war film. Or maybe not!

RUSSIA & UKRAINE - SPECIAL SERVICES TO COOPERATE - A working meeting of the heads of the Ukrainian Security Service and the Federal Security Service of the Russian Federation has been held in Yalta. Chairman of the Ukrainian Security Service, Leonid Derkach and Director of the Federal Security Service of Russia, Nikolay Patrushev, signed a number of documents on interaction between the two special services within the framework of the discussed issues. According to the report from ITAR-TASS news agency, Moscow, the agreements contain considerable potential possibilities for further development and strengthening of mutually advantageous cooperation.

BRITAIN - PENTAGON GUARDSI - The UK-based company, Group 4, has won a contract to protect the Pentagon. The company will provide a computer-based system that will control access to the Pentagon with 1,000 machines to read more than 50,000 'smart-cards'. The company refused to disclose the value of the contract, but described itself as the "world leader in access control".

RUSSIA/CZECH REPUBLIC - REBUILDING WORK CONTINUES! - Russian spy's are rebuilding a vast espionage network in the Czech Republic at a time when the country is being integrated into NATO's command structure. According to a confidential Czech government report half of the 63 diplomats and 104 other staff at Russia's palatial Prague embassy are spies protected by diplomatic immunity - giving them a safe window on the West. Prague has now become the regional centre of operations for Russia's military intelligence agency, the GRU. The Czech report points to a high volume of communications between the GRU's Prague residence and stations in Germany and Austria - suggesting that it co-ordinates activities over a wide area. The spy-masters are aided by a number of "illegals" - agents without diplomatic immunity. These are thought to include former Red Army officers who married Czechs during the Cold War, and Russian businessmen. Embassy staff are active in hiring new agents and reviving dormant networks left behind when Soviet forces withdrew eight years ago.

◆**Acknowledgments:** Paul - London, 'Intercepts' via-D, Tom Severt, Declan, Richard, Duncan Campbell, Paul Lashmar, Sonny, Sunday & Daily Telegraph, The Guardian, The Observer, Miami Herald, The Times, Washington Post, Stabroek News, United Press International, USA Today, The Economist, Politech, Reuters, Jane's.

LOOKING BACK WITH 'D'
"MOSCOW NIGHTS" - THE STORY
OF FRANK CLIFTON BOSSARD

On the afternoon of March 15 1965, a 52 year old rocket expert from the Ministry of Aviation, Frank Clifton Bossard emerged from room 229 in the Ivanhoe Hotel, Bloomsbury, London and was promptly arrested by Detective Supt. Wise of Special Branch. This was the culmination of months of investigative work which resulted in the arrest and conviction under the Official Secrets Act of this extremely damaging mole who had been on the payroll of both the British Government and the GRU.

Bossard's background was humble and impoverished which left him with a great inferiority complex and a desire to move up in the world. He was incapable of resisting easy money to finance the good life, a trait which earned him a jail sentence for fraud in 1934. He had many jobs upon leaving school including working in a radio shop and receiving technical training in wireless in a factory in Munich in the 1930s, where he appeared to take an interest in the Nazis. The British Government subsequently began to take an interest in him.....

During the war Bossard secured a commission in the RADAR branch of the RAFVR and he served in this capacity until 1946. The authorities did not know that he had lied about his criminal record, his academic qualifications and forged one of his references. He subsequently became a Radio Instructor in the Ministry of Transport and later the Signals Officer at Prestwick Airport. From this job came his crucial move in 1951 to the Control Commission in Germany where he had his first contact with the intelligence world. He later transferred to the War Office as a Senior Intelligence Officer in the Scientific and Technical Branch. From 1956 he worked in the MOD's Overseas Liaison Branch of the Joint Intelligence Bureau and subsequently continued his job in Bonn. His final posting from 1960 was in the Guided Weapons Research and Development Division of the Ministry of Aviation as an engineer. He clearly had a lot of highly secret jobs and, unknown to the British Government, he was actually a traitor and had been working for the Russians for a number of years, using radio to help him in his espionage activities.....

After his arrest and trial in camera, where he pleaded guilty, he made a confession, and this is the only information made public about his recruitment by the Russians and his highly damaging espionage activities. There was no way of checking the accuracy of his confession as Bossard's capacity for lies and deception were only exceeded by his enormous greed for cash, which was his sole motivation for spying. Bossard claimed that in the summer of 1961 he was eating a sandwich in a pub in the west End of London when he got into a conversation with a man at the bar concerning coin collecting, which was Bossard's hobby. He felt that the man knew something of his work because the conversation came round to the issue of technical translations and Bossard was keen to do such work to boost his income as he was short of cash following his return from Germany. The man said that he could probably help him financially and suggested a lunch meeting in a few days time at the "Magic Carpet" restaurant in the King's road in Chelsea. At the

lunch the man suggested that he meet Bossard at the St George's Hotel in Holland Park the following Saturday, which Bossard duly did. At the meeting the man revealed that he was employed in intelligence work at the Russian Embassy and said that he was interested in obtaining information. Bossard left the meeting with two hundred pounds. He was hooked and on borrowed time. This story appears to be a fabrication and it is more likely that he was recruited by the Russians when he was working for British Intelligence in Germany. Part of his duties at this time involved interviewing refugees and defectors from the East in order to glean scientific intelligence from them. Some of these people were undoubtedly Russian agents and no doubt reported information about Bossard back to Moscow.

The Russians supplied him with a list of Dead Letter Boxes on a piece of microfilm about six inches long which was read with the use of a magnifying glass. He had to leave information about guided weapons at various locations in the early evening on the first Saturday of certain months. The Russians paid him in the month following his deposit of information. He always collected his money within one hour of sunset and dropped off his information within half an hour of sunset; presumably to aid in countering surveillance. Bossard received over five thousand pounds for his spying, and on one occasion even had to meet a Russian agent at Cobham station in Surrey. This meeting was called because Bossard's films had been so well concealed in a Dead Letter Box at East Clandon in Surrey that the GRU were unable to find them!

The Dead Letter Boxes were constantly changed and this is a routine, prudent security precaution. Each drop was known by a letter of the alphabet and nine had been selected. One was a fixed meeting place which was to be used either on instruction from his controller, known as "Gordan", or on radio instruction from Moscow. At this location in Wrythe Lane in Carshalton he was to carry a copy of "Time" and wear a black and yellow tie and if challenged say "I was in Lisbon in 1961".

From 1963, instructions were passed to Bossard via Radio Moscow and he had to listen at 07.45 each morning and 20.30 each evening on the first Tuesday and Wednesday in each month. Bossard said that certain wavelengths were specified and it is not clear from reading material on the case if the broadcasts were from Radio Moscow or a transmitter used by Soviet Intelligence. Peter Wright in his book "Spycatcher" does say that the transmitter was a GRU transmitter in the Moscow area and GCHQ had knowledge of the tunes which were played. He had to listen for certain tunes e.g. "Moscow Nights" meant continue as all was well; "Kalinka" meant a meeting the following Saturday and "The Volga Boat Song" meant that use of dead drops had to cease immediately. This was the only contact he had with the Russians which made for a very high level of security. After his arrest he said that the only tune which was played was Moscow Nights which told him to continue spying and that all was well. The Police search of his home revealed a transmitter/receiver which was equipped with headphones. It was an expensive set and would give "very good reception of radio signals" (one can be found in every ENIGMA members house no doubt!!)

His working method was simple. He would read Ministry of Aviation files in his office at Castlewood House in Oxford Street and then in his lunch break take them to a hotel in Bloomsbury which he would have booked earlier under a false name. He kept his photographic equipment in a left luggage locker at Waterloo station which he would then retrieve at lunchtime. He would photograph all the information he wanted, take the equipment back to the station and the files back to the office and then pass the films on to the Russians. It was that simple and all the communication was done by innocuous tunes and coded dead letter boxes.

Bossard was caught because the West was tipped off about him by a CIA agent in the GRU. He passed to the Americans copies of documents that Bossard supplied so the traitor was himself betrayed! The highly classified papers he supplied had only been seen by a few people in the Ministry of Aviation and after an enquiry and surveillance it was noted that Bossard used to go to Waterloo station and retrieve a suitcase in his lunch-break. MI5 subsequently opened the suitcase and realised they had their man. This led to his arrest outside his hotel room in Bloomsbury and on May 10 1965 he was sentenced to twenty one years in jail. After the trial he said that his wife never suspected a thing because she believed that he still worked for British Intelligence !!!

ENIGMA BOOKLET - Special thanks for all the Booklet orders which have surpassed all our expectations. We thank you for your patience. We have received many positive comments - "Great Work", "Congratulations with publication of both booklets", "It's a perfect summary on the behaviour of the stations! Perfect!" "Spooks" internet Group reviewed the Booklet - they wrote "definitely worth having, as it provides a detailed examination as to what can be heard today". The British DX Club (BDXC) gave us a mention - Editor Tony Rogers comments "ENIGMA is a very good organisation for coverage of Number Stations". BDXC, 2 Lady Greys Walk, Stourbridge, DY8 3RA, U.K. or via email <bdxc@bigfoot.com>

REVIEWS The December issue of "Wireless Waffle" carries an article about ENIGMA - Wireless Waffle Magazine covers all kinds of news and features about the world of radio. More details from Keith at - 29, Sunningdale Avenue, Eastcote, Ruislip, Middlesex, HA4 9SS, U.K. or via e-mail <wirewaffle@hotmail.com>

ENIGMA was also reviewed in 'CRYPTOLOGIA' a quarterly journal devoted to all aspects of cryptology. It is published at the United States Military Academy. They kindly reviewed the newsletter and wrote - "Anyone with an interest in Number Stations or wanting to learn more about this fascinating subject should find ENIGMA very useful". You can contact CRYPTOLOGIA - Louis Kruh, Esq. Co-Editor, 17 Alfred Road West, Merrick, NY 11566, U.S.A. Sorry we do not have an e-mail address for this organisation.

On a less serious note ENIGMA was mentioned in 'Salon Magazine' editor David Pescovitz wrote "ENIGMA was established in the mid 1990s and through it esoteric journal, a nascent network of seekers was formed". So now you know!

TAKING YOUR RADIO (TAPE RECORDER, CAMERA, COMPASS & BINOCULARS) - FOR A HOLIDAY!

► INTRODUCTION - For many of us taking a holiday conjures up the thought of tropical beaches and laying in the sun doing nothing! But we can still enjoy our hobby whether we go to Bodmin or Budapest. Taking a portable SW receiver away from our usual location can provide interesting results and a few more clues in the Numbers Station puzzle.

► A WORD OF CAUTION - Before we get started let us just mention that discretion is important. Most authorities do not encourage people with radios to come along to secret installations - they have men with guns!- You don't want to get arrested as a spy - or even worse have to admit you are an ENIGMA member, which will only encourage them to keep you in prison a few more days while you try to explain! - Personal safety is important, - but you can, of course, listen from your hotel room, however, SW signals and metal framed buildings are often incompatible. Many transmissions are reduced to the sort of sound a dentist's drill might make if submerged in custard!

► TWO OPTIONS - Basically, there are two options when listening away from home. The first being to choose a good location and simply monitor - the results should, depending on where you are, give a good base-line of signal strengths (measuring the signal against that heard at home can be very useful) and activity levels. It is amazing how much difference 300 miles can make to signals. Many of the stations we hear in Europe are targeted to nearby countries and therefore use relatively low power - so what may seem weak in Britain may be bending the needle in Greece! Using this simple method we have been successful in narrowing our directional field when attempting to locate transmitters. Another benefit is that the extra logs can often fill in missing parts to schedules, or reveal transmissions which may be inaudible at your home location due to timing or propagation.

The second approach applies equally well in the case of a holiday taken in your home country or abroad. Visiting transmitter sites can provide all kinds of interesting information (the earlier cautionary note applies). When within close proximity of a site, the ground wave signals will be very apparent, and can also produce spurious signals in the receiver. During these visits it is simply a case of noting what type of signals you hear and their frequencies. Number Stations are not always easy to find, but don't be disappointed - anything interesting we would like to know about - Noises, Data, Voice, Morse, Teleprinters, Jammers! It is now increasingly the case that many types of transmissions send no audible (clear text) identifications, so monitoring at the location, or DF fixes are all we have to go on. I don't doubt that some readers will be saying "we know all this" but to coin another phrase, "the proof of the pudding is in the eating", and it should not be underestimated how important your logs/reports/site visits can be in revealing vital new leads and information. Have a good holiday and don't forget to send us your logs and observations - we will deny ever having heard of you if you get arrested! Some holiday reports follow.

► READERS REPORTS - Our first report is from Simon (Shropshire). "I have just returned from one of my stints in Zakynthos, Greece and as promised here is my synopsis of what's available on the SW there. As expected, our (E15) friends Nancy, Adam, Susan, and Frank, Young, Peter were very strong indeed when I managed to catch them. Their schedule seems to be very erratic just lately. You know how distorted the E15 audio is here? Well, believe me, its worse in Greece! (E3) Lincolnshire Poacher) and all the (E10) Phonetic Alphabet Stations were much stronger in signal and audio at all times, especially ART on 5437 kHz together with that annoying 7.5 second Data burst (see 'Buzz' section this issue re-data signal) that rudely interrupts every minute. There was no sign of (E3a) Cherry Ripe, although I did not make a special effort to monitor this one. The Counting Station (E5) although audible, were of very poor signal strength - obviously they have no agents in Greece! Perhaps Cynthia gets sunburnt easily?! Another station which was giving very poor reception was the 3 message (E23) - The former Swedish Rhapsody. Ed Note: is E23 strong anywhere? There were no other voice stations heard at all, so it seems that E10 & E15 agents are at work in this neck of the woods.

A few "Buzzes" were noticed, together with a few surprises. The Buzzer (S28) could barely be heard at all (together with that annoying hetrodyne!) However "The Pip" (S30) could be heard very clearly on 3756 kHz during hours of darkness. Also "The Backward Music Station" could be heard very clearly on 5094//6695 kHz at all times. When it was not making those stupid noises, it just sat there making a strange clicking/tapping sound! But if, as you say, this transmissions is coming from Italy, then no-wonder it is very strong in Greece".

Also visiting Greece was Rob (Essex), his report from Acharavi, Corfu produced very similar results - he writes "Nancy Adam Susan (E15), Phonetic Alphabet Stations (E10), Lincolnshire Poacher (E3) and interestingly "Three Note Oddity" (G6) were all very strong. (S28) "The Buzzer" was very weak, while "The Pip" (S30) was a good signal on 3756 kHz. "Faders" (XF) were heard most places on the band with average signals day and night.

Other signals noted with good reception included English & Russian Men (E7 & S7) (these tend to be good most places, Russian transmitters!) And several Counting Stations (E5) on the higher frequencies, e.g. 13444 & 14600 kHz."

First, thanks to Simon and Rob for taking the time to write with details - they have both provided an excellent base-line of what can be heard and the comparative signal strengths confirm the results of our investigations into the locations of the stations and signals mentioned. We hope that this short article will inspire other readers to take their monitoring habit on holiday, so please let us have the results and of course have a nice holiday and stay safe.

"FACT AND FICTION - A VAST SUBJECT"

◆ **INTRODUCTION** - "Fact and Fiction a Vast Subject" seems the most appropriate title for this brief look at a subject which both fascinates and frustrates at the same time. Let me say right at the outset that we can only touch on certain areas and for those readers who specialise there are many excellent books and reference points available on everything from The Cold War to encryption. We wanted however to try and answer few common questions we are asked at ENIGMA and dispel a few myths.

Also we would like to open up the discussion about Number Station encryption, an area about which we receive regular letters and questions.

◆ **CLEARING THE GROUND** Before we move onto Number Stations it may be worth running over a few areas that will clear the ground. In the Ancient World according to the Greek historian Herodotus, a certain Histaeius once sent a secret message by shaving his slave's head, pricking out a message and waiting for the hair to grow again. The slave carried the message and the mission was a success. Caesar wrote out an ordinary alphabet, then wrote out the cipher alphabet, but with each letter shifted three places along. All this was well and good until the industrial revolution introduced mass communications.

Two World Wars showed the importance of secure communications. In the years leading up to WWI, Britain's own MI5 was gathering pace and had a large database of suspects who were quickly rounded up at the outbreak of war. The earliest reported case of mail interception was 1844 ! Taking a lead on your enemy or even perceived enemy was a serious business.

I am sure that many readers will be familiar with the well-documented war-time work of Bletchley Park, the ENIGMA machine and PURPLE the Japanese equivalent. Frank Rowlett, the American who led the war-time team who cracked 'Purple' died recently, aged 90. A curious quirk in Japanese diplomatic language meant that each cable opened " I have the honour to inform your Excellency." The iteration of this phrase was a gift to the code breakers.

After WWII a new world order was formed. East and West became embroiled in an ideological struggle that was to last 40 years. Technology marched on and with it electronic eavesdropping - nothing was safe from the efforts of the main players. Telephones, facsimiles, telex, diplomatic traffic, satellite communications and more recently, e-mails, are all sucked in and processed, at first perhaps by people but now by computers. Nothing is safe. The governments of Washington, Moscow, London and The Euro State debate the latest rules and regulations concerning secure e-mails. Almost weekly we read that 'soft-encryption' can be broken in days. Recently the U.S. government standard [(DES) Data Encryption Standard] as recommended to be used by business for secure communication was cracked in just three days by the Electronic Frontier Foundation a leading civil liberties organisation. The EFF computer ran tests at over 90 billion keys per second, taking an average of less than 5 days to discover a DES key.

If nothing is safe, then how do you communicate? Be under no illusion the amount of money spent each year on electronic surveillance is almost beyond comprehension. Knowledge is power, and things are more complex than ever. During two World Wars we knew who the enemy was, during the Cold War we also knew the enemy, but today, things are very different with many countries each looking for a moment of fame on the world stage.

◆ DISPELLING A FEW MYTHS - Over the years articles about number stations have come and gone; several books have been written, and thousands of pages of speculation written about this very closed subject. The debates on the Internet continue yet some of the myths surrounding number stations seem difficult to curtail.

◆ AN INTERNATIONAL CONSPIRACY ? Many readers may be under the impression that number stations evolved in an unstructured manner. The truth is perhaps quite different. Within Europe at least, rules were established at the end of the World War II. If the whole subject was a jumble then the job of monitoring each others transmissions would be an impossible task. Certain ground rules were established between East and West. The early players, Britain, France, Germany, Russia and some East European states may have attended a secret meeting (along with the ITU) at which it was established that each operator should have a format to their transmissions and a particular ending. Interestingly the best (or easiest) endings went first, what could be simpler than 'End' '000' or '00000' - later players had to make do with what was left resulting in ever more bizarre Morse and voice formats and endings. Morse stations also use two different zeroes, '— — — —' or the short '—', an asset in identification or a split between East and Western Europe? Perhaps the reason that Lincolnshire Poacher (E3) and Cherry Ripe (E4) are jammed is because no one thought to invite Iran and China to the secret meeting.

◆ SMUGGLERS AND SPACE SHIPS ? Over the years many ever more outrageous theories have sprung up about what number stations do. We have seen them all: transmissions for UFOs, automatic river depth soundings, snowfall figures for Andorra, stocks and shares, betting odds ! As the body of evidence has finally swung towards espionage, more diverse suggestions have come to light. Drug smuggling operations, international criminals, terrorists are all reported to be the subject matter. On this point we need to go back to basics.

First the operators of number station know who each other are; they also, in the main, know which transmissions originate from which agencies (some countries have greater resources than others to monitor and collate). Intelligence work falls into several categories. The 'lower level' areas of crime, drugs, money-laundering, people-trading and international terrorism do allow for cooperation between the special services of opposing countries. There is now a greater need to cooperate at these levels as dangers to whole economies are greater to all concerned. However, we must not be under any illusion that there is a level at which special services do not cooperate, and that is in the field of espionage. It is at this level that number stations operate.

◆THE CODES CAN BE BROKEN? This is one of those common questions and the answer is a simple no. If a civilian (outside the intelligence service) or opposing monitoring agencies could read a number station message then it would be the day the operator closed down. Earlier we mentioned that a computer running at 90 billion keys per second had taken three days to break a code. Numbers stations have been running for 50 + years and no civilian has succeeded in breaking into codes. We often see e-mail debate and ludicrous suggestions about this subject, so let's examine the facts.

First of all, the code used by the majority of number stations is based on the one-time system. From a listener's point of view we only have one of 3 components: the transmission (on which more in a moment). What we lack is the pad and the decryption code. Interestingly, the agencies of opposing sides are in just the same boat. There are only a small number of options which are likely to yield any results. The first is to capture or compromise the recipient - or they may defect. At this point you may be able to learn a limited amount about the cypher system employed. Some of the larger agencies archive all transmissions from opposing agencies in the hope that they can be revisited should such a blessing occur. The only other option is to try and break the code, but due to the unique method employed no amount of 'brute force' attack is likely to reap the intended result. Now we hate to be killjoys, but thinking about it logically, if number station messages could be broken by the 'brute force' route of computer attack there would be very few secrets left by now.....

From an individual perspective, we can learn something about the traffic. Building up a large sample of transmissions may reveal if the code is 100% random or not (some are not). But this is about the limit. It is impossible to tell if a message is genuine, or just generated for a perverse pleasure by an agency that enjoys that kind of thing. Also it is not possible to check if the transmission contains opaque fillers to disguise the true message or even the language of the message. Of course agent '44D' might just be back in Iraq enjoying a few weeks with friends and family, but we go on still receiving his messages - after all it would be foolish to stop sending them for a few weeks; it might just give the game away.

Not convinced by the scale of the problem? Well, how about a genuine code from the former DDR. Remember that we only have the radio transmission to go on not the pad or the cypher shown below.

◆FOOD FOR THOUGHT! Because Number Stations do not use the same technology that can be found in complex electronic encryption you may wonder why it is so very difficult to break. Like many things that are simple they are both effective and robust.

If you heard the following 5F groups how long do you think it would take to make out a message? You have to consider that you do not know the language of the transmission for certain, nor do know if the message is genuine or just dummy, nor do you know if it contains opaque fillers.

The transmission sends 41621 02151 30752 84192 it contains - two=0s, five=1s, four=2s, one=3, two=4s, two=5s, one=6, one=7, one=8 & one=9. But none of this really helps you !

Below is a genuine DDR Numbers Station page decoder. It is Code 6 from a larger set. Possibly Code 6 is only used by one agent and the 6 may denote Saturday. On other days codes 1 to 5 or code 7 may be used. In addition the recipient will have a pad of numbers. These are each used just once - one page for each message. When the message has been decoded the page will be destroyed.

A	E	I	N	R	S						<u>CODE</u>
0	1	2	3	4	5						<u>6</u>
Ä	B	C	D	F	G	H	J	K	L		
70	71	72	73	74	75	76	77	78	79		
M	ö	P	Q	B	T	Ü	U	Zohl			
80	81	82	83	84	85	86	87	88	89		
.	+	—	!	()	V	W	X	Y	Z		
90	91	92	93	94	95	96	97	98	99		

Let's look at our message again 41621 02151 30752 84192. We have made it easy; there are no opaque fillers and the language is English. We made it easy to use; you need to add the Numbers station message to the numbers on the pad but do not carry. In other cases you may subtract one figure from the other, again without carrying to obtain a similar result.

<u>MESSAGE</u>		<u>P</u>	<u>H</u>	<u>O</u>	<u>N</u>	<u>E</u>	<u>F</u>	<u>R</u>	<u>I</u>	<u>T</u>	<u>Z</u>	<u>!</u>	<u>—</u>
KEY		83	76	81	3	1	74	4	2	86	99	93	92
PAD	+	42	14	71	1	0	23	1	2	11	71	52	00
TRANSM.	+	41	62	10	2	1	51	3	0	75	28	41	92
	=	[83]											
	=	[P]											

For ease of transmission our message is broken into 5F groups. If we used a different code page and a new pad the groups would be totally different even if the message was exactly the same the following day !

Happy Listening 'End'.

ENIGMA BOOK REVIEW

"THE MAN WITHOUT A FACE"

A review by ENIGMA reader, Andreas

Markus Wolf, an anti-fascist militant, who, with his family had to flee from death in Nazi-Germany to the Soviet Union was later to become director of the Foreign Intelligence Department of the Ministry for State Security of the German Democratic Republic. Respected by Western Intelligence services during and after the Cold War, Wolf was tried on charges of "false imprisonment" and "coercion" during 1997 by the German Federal Government - "The Man Without A Face" is a fascinating view into the workings of the German Democratic Republic's State Security Service and its Director General.

Many readers will be familiar with the media coverage of the Markus Wolf trial and will also have seen him on various television programmes looking at espionage. The very idea that such a person could appear in public let alone write a book would have been unthinkable a decade ago (indeed for British intelligence personnel past and present such thoughts still are).

The title of the English edition is "Man without a Face", published by Time Books, Random House Inc., New York, USA, the authors are Markus Wolf and Anne McElvoy. The title of the German language edition, which is said to be an extended version of the English language original, is "Spionagechef im geheimen Krieg", with only Markus Wolf mentioned as the author, published by List Verlag, Munich, ISBN: 3-471-79158-2 -Priced at 44DM. 512 pages.

It is the German language edition which we will use as our reference. I spent a day and a half reading the book from cover to cover after hurting my foot and my employer, the Army, kindly allowed me to send this review!

In general, the book is quite interesting. You won't often have the chance to read the biography of one of the world's longest serving spymasters - there aren't many of them. The book was obtained shortly after it was published in Germany, but a disagreement emerged between Wolf and the former Minister of Interior (Peter-Michael-Diestel) of the GDR concerning certain statements which Diestel claimed had not been made. The book was later reprinted.

The first reference to number stations is made on page 44. During WWII Wolf lived in the Soviet Union. As a young man he was trained for parachute jumping over Germany. But the leadership of the German Communist Party in exile abandoned these missions after it was discovered that the Nazi Abwehr had deciphered the Soviet code for radio messages to the agents, and nearly all of them were captured and executed.

In the early 1950s, the first years of the GDR, the process of establishing illegal

residents in West Germany became a priority. It was particularly important to be able to contact them in times of crisis when other more conventional methods may have been dangerous. The illegal residents first received training in how to both receive and transmit information and were trained to use a transceiver which would be used for sending fast Morse transmissions. (Another pointer to the use of burst transmissions during the 1950s). These plans with the illegal residents came to an abrupt end when an important member from the GDR HQ defected to the West.

Later Wolf describes the downfall of one of their West German spies, the journalist Helmut Ernst. He had a car accident in winter and was taken to hospital. The police discovered a Minox camera, which was standard equipment for all East German agents at this time (around 1956). Also discovered was a modified radio receiver. He had some "extras" in order to receive "the mysterious voices", as Wolf put it, that sent number codes over short wave with instructions from HQ. This is a clear statement. (Perhaps Herr Klengenfuss will like that one - even now he seems unconvinced that number stations are espionage related).

Wolf goes on to describe how they trained their illegal residents in the sending and receiving of Morse messages (again this confirms how important Morse activity was and still is in the numbers world). At first, all their personnel had to learn how to transmit messages by hand. They had very small transmitters, these were later replaced as the MfS moved to using more Morse burst transmissions. The "burst generator" was no bigger than a cigarette box. Those involved in sending messages back lived in fear of Western D.F. agencies - but none were ever caught as a result of sending these transmissions back to the GDR. He states that one-way transmissions were one of the most important methods of communication. With a standard SW receiver it was possible to receive the coded messages. The BND used the same system for communication with their own agents. The method was simple and robust, but was reliant upon the ciphering system.

A number of prominent cases are studied in detail; we will touch on some of them. The case of Gerda O., "Rita", who worked for the communications bureau of the Auswärtiges Amt (Foreign Office). All telegrams from/to West German embassies were decoded/encoded, so she had a good opportunity to view such information. Later she carried out similar work in Washington and Warsaw.

The case of Günter Guillaume is also covered; he sent his information back using cigarettes with microfilms in them. He also received radio traffic on a date of the month schedule at predetermined times.

The case of agent "Wieland" is particularly curious. He worked for the MfS-HVA in West Germany. The Verfassungsschutz (BfV) discovered that he was a spy, and wanted to make him a double agent - it was not difficult to force him. They duplicated his one-time pads so that they could listen to the messages sent from Berlin. However, they did not consider the fact that "Wieland" immediately told his masters what had happened. So he became a triple-agent. One of the people who worked for "Wieland" was Klaus Eduard Kuron. Kuron later decided to change

sides and spied for the MfS inside the Verfassungsschutz. Kuron sent his information via a telephone line using a system not unlike a burst transmission.

Wolf also talks about the role of the MfS outside Europe. In 1982 when Israel invaded Lebanon the Soviets lost contact with their embassy and also with their KGB staff. Only the HVA-officers had working transceivers so they contacted the Soviets to assist with communication problems.

The HVA had also tried to get some agents in the United States, but one was caught and betrayed some secrets. So all the others had to be re-called. It was also revealed at this time that the MfS had used one-way radio transmissions from Cuba to communicate with agents. Wolf states: "It took years to build this transmitter".

In Europe they had some success against US facilities. A Turkish worker from West Berlin fed information back about the NSA. The most important information concerned the surveillance facilities of "No Such Agency". In Berlin 1300 technicians worked on the interception of radio and telephone traffic. The monitoring station Teufelsberg (meaning Mountain of Devil) in Grünwald was a key part of the NSA/GCHQ's eavesdropping effort. It was revealed that the Americans had broken into the code used for transmitting foreign and domestic reports intended for/sent from the Central Committee of the SED, the GDR's leading party. The MfS HA III, responsible for radio surveillance found that the Americans were able to obtain information on all troop movements in the Eastern Bloc countries including the USSR.

The MfS obtained plans concerning US radio surveillance and a list of military radio command transmitters which had to be rendered inoperable in the event of war breaking out. James Hall and Hussein Yildirim were caught by the FBI in 1988 and Hall was sentenced to 40 years imprisonment.

They also had a source in the USAF who gave information obtained from the direct line between Ft. Meade, Maryland and Teufelsberg and the European NSA facilities in Frankfurt/Main. The Americans broke into the communications of the Soviet military airbase at Eberswalde, 25 km from Berlin. They worked on a project to take over the role of ground command stations in order to mis-guide aircraft. The Airforce contact was Jefferey Carney. A friend of Carney's was found dead with a plastic bag over his head in his bath because he was suspected of been a spy. After this, Carney asked for asylum in the GDR and defected . He worked for the HA III monitoring English language radio traffic. Following the collapse of the GDR Carney was kidnapped and brought back to the United States and was later sentenced to 38 years in prison.

I have only been able to touch on the contents of this book in this review but I am sure there is something for everyone with an interest the years of the Cold War and the fall of the Soviet Union and Eastern Bloc - and what better way to view it than through the words of a real life Spymaster! Andreas.

SIMON MASON WRITES

<<http://www.btinternet.com/~simon.mason>>

Hello and welcome to my column in the ENIGMA magazine. Firstly, it's been a busy few months with a seemingly strong interest in Numbers Stations from the general news media. For example, in September, David Pescovitz, who compiled the following piece on the subject, interviewed me for the U.S. magazine 'Salon'.

► SALON MAGAZINE

Twisting the dial of your shortwave radio, you come across the most "experimental" sounding stations you have ever heard. A glockenspiel tune is followed by the voice of a little girl speaking numbers and letters in what sounds like random order. A techno DJ's pirate radio mix? Performance art? No, you've stumbled across a "numbers Station," and the message inside the madness just wasn't meant for you. Somewhere in the world, a government spook, maybe CIA, MI6 or Mossad, is furiously scrawling down the numbers on a pad, a decoding key open at his side.

"Shortwave numbers stations are a perfect method of anonymous, one way communication - spies located anywhere in the world can be communicated to by their masters via small, locally available, and unmodified shortwave receivers", reads the Web site of The Conet Project, an outfit that's compiled 150 numbers stations recording from the last three decades on a four-CD set.

And that's the short of it. For 30 years, intelligence organisations have allegedly broadcast one-way messages to their agents in the field via shortwave and the transmissions happen to sound weirder than any Stockhausen score or minimalist electronica you've ever heard - a child's voice or the obviously synthesized intonation on what's known as the "Lincolnshire Poacher" station, named for the folk song accompanying the numbers.

"Alleged" is a key word here when talking about the numbers stations' purpose, even though it seems that everyone with their ear to the airwaves is in agreement as to the stations' spy connection. A rare mainstream media article about numbers stations published in the Daily Telegraph last year quoted a spokesman for the Department of Trade and Industry, responsible for regulating the airwaves in the U.K.: "These (number stations) are what you suppose they are. People shouldn't be mystified by them. They are not for, shall we say, public consumption."

But when I wandered into Aquarius Records in San Francisco's Mission District, how could I not consume? While I began browsing through the improv-jazz works of John Zorn, the electro-acoustic ontology of Terre Thaemilitz and the surreal sound-tracks of Ethiopian field recordings, I barely noticed the sounds emanating from the store's stereo - a computer voice calmly rattling off digits. Likely a new release, I thought, from Robin "Scanner" Rimbaud, the British composer who injects snippets of electronically eavesdropped cellular phone calls into his mixes.

The numbers continued to flow through my brain as I shopped, though, present enough to be distracting but not repetitive to be annoying. Call it mutant Muzak. After

20 minutes, I found myself and the clerk in deep conversation about "the Conet Project: Recordings of Shortwave Numbers Stations," one of the store's "staff favourites". Like the clerk, I was hooked on the bits of Conet lore that were spread like a cultural virus by the Aquarius employees and customers. Probably unlike him, I dropped \$60 to analyse the Conet CDs in the comfort of my home.

My preferred dose? One CD of Conet before bedtime. Repeat if necessary. Be warned, though: Side effects may include grainy and nihilistic nightmares starring a greyscale spy cabal armed with an arsenal of dead media. Conet as soundtrack to a J.G. Ballard noir documentary. Indeed, Ballard's style of (non) fiction blends seamlessly with the blurb on Conet's stark, minimalist packaging: "The origin of these stations is in dispute. Their purpose is unclear. Some of these organisations should have been closed down after the 'end of the cold war,' yet they continue to transmit like clockwork."

And therein lies their mystery that keeps headphones on hundreds of numbers listeners around the world. Most of these people aren't the avant-audio enthusiast who frequent Aquarius. They don't know musique concrete. These shortwave buffs are knob-twiddlers of a different sort. For them, the process of numbers stations is more interesting than the product. Under the mainstream radar, numbers stations Web sites, online chat rooms and e-mail lists thrive with listeners sharing frequencies, recordings, rumours, stories and speculations about the strangest sounds on the dial.

"If you tune in to the BBC World Service, you know where the studios are, who the intended audience is and where the transmitters are, but with numbers stations you don't know any of that," says Simon Mason, a chemistry lab supervisor in England who in 1991 penned one of the first texts detailing the numbers racket, "Secret Signals: The Euronumbers Mystery." It's like a mystery novel or television show, but the difference is no one will ever come out with a solution".

Mason was a teenager twiddling the knobs on his father's shortwave set in the early 1970s when he was first caught in the numbers trance.

"I listened to the Voice of America and Radio Moscow and eventually came across shipping and aircraft stations," he says. "I was able to find an explanation for those. Then I heard the strange voice - someone saying, 'Papa November' for five minutes while a snake charmer's flute played in the background. And there was no explanation anywhere".

Convinced that he was just the victim of ignorance, Mason's interest in shortwave waned. Until the 1980s, when he tuned in again and was confronted with the same mystery he'd encountered as a child. Finally, he discovered a mention of the numbers stations in the American magazine *Monitoring Times*.

"That showed me that I wasn't alone in listening to these things," he says. Several years of spending many hours a day tuning in and cataloguing led to Mason's "Secret Signals". Shortly after its publication, the West Yorkshire based ENIGMA was established and through its esoteric journal, a nascent network of seekers

formed.

"Numbers station enthusiasts are usually in their late 30s, because they would have had to grow up with shortwave, which most people consider a dead medium these days, but also they're usually what we call Anoraks, obsessive nerd types into railway engines and things like that," he says.

Chris Smolinski, for example, the 32-year old software engineer in Baltimore who runs the Spooks Spy Numbers Station Mailing List. With more than 300 members, Spooks is where numbers enthusiasts meet and greet online.

"With the Net, I can post that I'm hearing something and instantly find out who else around the world is hearing it," he says.

Recently, for instance, the list was abuzz with reports of the first French language numbers broadcast (not correct see-V12 Ed.). Based on format patterns, Smolinski says, it was determined that the station was most likely Russian in origin. Also good for a few online laughs are the technical gaffs common on the Cuban numbers stations.

"We have jokes about how Castro can't do good radio," Smolinski says. "Lots of times you'll hear Radio Havana on top of the numbers because someone plugged in the wrong patch-cord. Like most numbers enthusiasts, Smolinski has a sense of humour about his hobby. "Fortunately, conspiracy nuts haven't latched on to numbers stations and given us a bad name," he says. After all, he and Mason have no delusions about someday cracking a numbers code - indeed, knowing what the spooks are saying would spoil the climax of the never ending story.

Basically, this isn't "The X-Files"

Take the time Smolinski visited what an online associate told him was a CIA numbers station transmission tower an hour southwest of Washington. In the middle of a field, surrounded by a barbed-wire fence complete with U.S. government "no trespassing" signs, are several radio towers. Did Smolinski jump the fence? "I certainly wouldn't do something foolish like that," he says, before proudly adding that he "did get a few nice photographs that I posted on my web site. After all, the government doesn't play games - they pretty much acknowledge the numbers stations and what they're used for".

Conet then, is a cultural artefact, an audio snapshot of surveillance culture heard live or plucked from the airwaves, and burned to CD. Not post-Cage chaotic while noise that "just sounds cool" over a kick drum, but content-rich transmissions that, quite simply, we'll never fully understand".

My mind is still boggled at the thought of The Conet CD being played as background "music" in an American record store!

► NATIONAL RADIO INTERVIEW

After my interview for Salon came even greater exposure when David Goren for National Public Radio interviewed me after I received this request: "I am an independent radio producer based in the US. I am working on a story about the shortwave numbers stations for National Public Radio's "Lost and Found" series. "Lost and Found" appears as a weekly feature on All Things Considered, a daily news-magazine. The series focuses on distinctive sound of the past 100 years "that reveal a sense of place, and mark the passage of time."

He needed a studio quality interview and as NPR has a reciprocal arrangement with the BBC, he hired some time at my local BBC station, Radio Humberside. It felt odd arriving there on a windy day in November to talk about Number Stations and sitting in the reception room listening to the afternoon output of Radio Humberside; its traffic reports, Women's Institute meeting and lost cats only added to this feeling. The receptionist asked me what I was going to talk about and as I tried to explain, her eyes lit up and she said; "Oh you mean like the University lecturer? (see next item), and I said Yes, that he had indeed listened to these stations. At 15.00 UTC prompt the link was set up and David's clear voice came out of the right earphone. The interview went so well that we exceeded our time slot of half an hour and spent over an hour talking. One thing that surprised me was that there is a group of people in the U.S.A. that don't have any interest in Shortwave as such, they view Number Station recording as a new sort of art form. They see the sounds akin to works by Philip Glass, Stockhausen and Cage. I suppose if someone can release 4 minutes of silence then perhaps these recordings do stand up as an art form!

► LOCAL 'SPY' OUTED!

The local connection continued when the BBC broadcast a series of TV programmes about spying. The 'Spying Game' included details of ex-Stasi agent Dr Robin Pearson, who is a lecturer at The University of Hull. In the show it explained how Pearson would receive coded messages from the Stasi via shortwave radio and as his house is literally less than a mile away from mine, I decided to take a look. He was apparently on holiday during this time, as the house appeared to have been unoccupied for quite a while. I tried to imagine him tuning into the Gongs of G3 or the Four Note Rising Scale of G8 inside the ordinary suburban semi. On his return, I decided to write to him and ask which stations he tuned into and what his method of decoding was, but unfortunately I have not received a reply. I will write to him again sometime in the future, when everything has died down and maybe this time he will answer.

► PAPA NOVEMBER LIVES ON?

Next Number Stations inspire poets! On the internet, I stumbled on this extraordinary poem by a Mr Eric Egolf from the United States. I could not believe that someone could have written such a thing, but here it is!

Papa November, where are you tonight?
Papa November, will you show me the light?
Papa November, what do I do today?

Papa November, what do you want me to say?

Papa November, where is your voice?
Calm, reassuring, your frequencies roam;
The airwaves reverberate with one solemn question,
Papa November, when can I come home?

Papa November, call out my numbers,
Tell me your wish, send me on my way,
Papa November, voice of the night,
Secret master of what takes place during the day.

I serve my country in clandestine ways,
I walk among them, report back through the air,
You give me orders, no news from back home,
I'm still stranded here, while you're over there.

Monotonous groups of five digit numbers,
My only link to the land that I love,
My work is my life, I'm always on duty,
But when I think of home, it's just not enough.

Every night, at oh one hundred hours,
Papa November takes to the skies;
Gather more data, find this official,
Learn his agenda, establish more ties,

Papa November, where are you tonight?
Papa November, what is you call?
Papa November, you'll give me more tasks,
But I hope every night that that won't be all.

Papa November, I've been here for years,
Papa November, I've felt so alone,
Papa November, call out my numbers,
Papa November, tell me when I can come home.

I had to ask Eric how he came to write the poem and here is his reply: "I never actually did get to listen to it, in fact. My knowledge of the intricacies of listening on the shortwave band is really quite limited. Still, I have found a fascination with the concept of number stations - just the fact that right now, somewhere in the world, someone is probably sitting in a less than friendly territory with nothing more than a small shortwave receiver, the only link back to the country they risk their life 24 hours a day serving being a mechanised voice and maybe a few bars of some brief, tinny music. That was really the sense I was trying to convey with

"Papa November", and I'm glad the numbers station enthusiasts like it - I'm not

expecting similar e-mails from the spies. The selection of PN as the station mentioned was more of a poetic license than anything else - it's just a great name. One station, I forget which, had a voice that screwed up the pronunciation of November - it came out "Novembreer" on the recording I heard - and I liked it so much that I still slip when talking to friends and say, "Yeah, I'm hoping to go visit her sometime in Novembreer". Such are the types of things that attract me to the idea behind stations".

I had to read this poem out during the interview at the Radio Humberside studio; goodness knows what the sound engineers were thinking!

It's not just poets that are inspired by Papa November; a numbers station fan in Oxford informed me that a local band had called itself after the G16 station. I thought no more about this until I was reading a copy of the magazine "Record Collector" and came across a picture and review.

Papa November - "Monkey See Monkey Do"/ "Navara"

Trance like soundscapes draft over the top of rolling, almost jazzy drums. Then a more pounding, club orientated beat is unleashed and the record seemingly becomes dub. This is undoubtedly where it is most enjoyable. A climatic single, which needs all the space it can get, and so is one of a few seven inches this month that play at 33 and a third.

► ONE TIME PADS - INTERESTING COMMENT

Finally, an interesting comment about the use of one time pads from Bruce Allen in the U.S.A: "The pads were 10x10 giving 100 groups squares. Each row and column had a 'key number' The early pads were numbered 1,2,3...0 To decode you took 2 numbers and applied them first one to row, second one to column and at the intersection was the group. Then the problem was that if a pad fell in to the wrong hands the messages were all compromised. If you scramble the order of the key numbers (486012593) for each use of the pad you had a more secure (in theory) system. The Germans (I think) used a two-transmission method. The first message was the content message. The column key was similar. But no pad was needed to decode it. If my memory serves me right, the system was something like take the date number (i.e. 15 Oct 1999 would use just the 15) and add it to the first two numbers of the message. You then counted off that many numbers from the start and that was row 1#. The numbers in the corresponding position in the next group was the 2#, until you had 20 numbers. The drawback was two transmissions, which doubles the exposure of the agent. The next development was to place the keys and messages on top of each other (sub channelling). The first method was to leave a longer pause between numbers... 1 5 3 7 45, the first time this happened the agent would write 7 in the first row. The pause would be sent with every occurrence of 7 from then on, just to throw off analysis. This would continue until all the row digits were sent. Then the first row numbers was sent WITHOUT the pause. This signalled a switch to column numbers. The same processed followed. Finally the whole message was decoded.

The British "Mark 122" Spy Set (part 2) by H F Bellini-Tosi

In the last article the third ("FORM") position of the Receive/Transmit switch was mentioned, and a circuit diagram including this switch was given. Anyone with an elementary knowledge of electronics will see that in the "Form" position no HT or negative bias is applied to either transmitter or receiver. A more subtle change is the switching of the two 8mfd electrolytic capacitors (reservoir - & smoothing on receive) in parallel (the 22ohm resistor can be ignored). These capacitors are now fed from the rectifiers via a 2.7k 5W resistor thus reducing the current through them.

What's all this got to do with the Stay Behind/Sleeper role?

Quite simply, that if the set was to be used immediately after being buried for years it would "blow up"! The two capacitors would explode and the HT fuse would blow. This explosion could fill the set with hot electrolyte making it useless. The selenium rectifiers could also be damaged, causing the familiar bad egg smell to emerge in the ensuing smoke. (This smell is actually mentioned in the users' microfilmed manual). The reason for all this is that electrolytics, if not kept in use, begin to degrade over years, and lose their charging ability. They explode when a high voltage, in this case a surge of over 350V, is applied to such an "unformed" capacitor. The remedy is simple. They need to be "re-formed" by passing HT through them at low current for several hours, and this is the reason for the "FORM" position on the switch.

Non-polarised capacitors don't suffer from this problem, but an 8mfd paper capacitor rated at 350V is many times the size and weight of a similarly-rated electrolytic, and would be impracticable in such a piece of equipment. As these sets of paired black boxes were to be buried or hidden for many years (many may still be in place) they needed to be well-protected against dampness. Their wrappings were impressive - heavyduty sealed plastic wrap, taped-up cardboard box, shockabsorbing rubberised packing material, several large linen bags of silica-gel dessicant, tough foil-backed brown paper wrap, strong black plastic zipped cases containing the two boxes. Various labels, giving dates of manufacture, burial, checks, modifications, reactivation of dessicant etc., were also included. Due to its nature such details were encrypted, and no clue as to country of origin was allowed to slip past. (Even the screwdriver had its maker's name etc. carefully scraped off the red plastic handle!)

When required, MI6 "sleepers" trained in Morse and radio operation, would be informed of the precise hidden locations of the radios which they might need to use, should the occasion arise. The Stay-Behind networks planted (underground) hundreds of these sets throughout Britain, but not only were they for the cells who "stayed behind". They were also used by cells operating on the Continent, and even behind the "Iron Curtain". Future articles will cover these networks, their sealed "Mobilisation Instructions", radio exercises, sites etc. in greater depth.